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France and the Antarctic Treaty System

by

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France and the Antarctic Treaty System

Chavelli Sulikowski

Abstract

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France is a prominent player in international Antarctic affairs. As a claimant state, original signatory, and key player within all the Antarctic Treaty System (ATS) institutions, with an extensive environmental legacy, France has consistently occupied an influential role in the international Antarctica political arena.

This thesis examines key instances of French cooperation in the ATS, and in doing so, addresses questions relating to the nature of a single state's cooperation within a multilateral treaty regime. It considers the factors that motivate French cooperation within the ATS, and the strategic focus setting for France's Antarctic agenda through examining two key questions: what are the drivers that have led to France undertaking increasing cooperative engagement within the ATS over the last decade? And, through what principal means is France pursuing cooperation within the ATS?

International regime theory, and in particular, the insights from the concept of complex interdependence, provides the analytical framework, and more widely assists in our understanding of international cooperation. This thesis also considers relevant aspects of international environmental law relating to France's engagement in the ATS. Three empirical case studies covering scientific and technical cooperation, marine living resource management, and environmental protection in the Antarctic and Southern Ocean region, provide evidence that assists in identifying the key characteristics, and patterns of interaction that encourage and facilitate France's multi-level cooperation within the ATS, and that enhance our understanding of the contemporary cooperative trends of France as a key player within the ATS.

France has maintained consistent engagement within the ATS following the entry into force of the Antarctic Treaty over fifty years ago, and has pursued a number of key policy objectives in order to achieve its Antarctic agenda. Several contributing factors are identified as influential in France's increasing cooperative behaviour within the ATS. France places significant emphasis on pursuing multilevel cooperative agreements within the ATS, particularly at the bilateral level.

Abbreviations and acronyms

AAD	Australian Antarctic Division
AAT	Australian Antarctic Territory
ACAP	Agreement on the Conservation of Albatross and Petrels
ADC	Astronomy at Dome C Committee
AFMA	Australian Fisheries Management Authority
ARENA	Antarctic Research, a European Network for Astrophysics
ANR	*Agence Nationale de la Recherche*
ASMA	Antarctic Specially Managed Area
ASOC	Antarctic and Southern Ocean Coalition
ASPA	Antarctic Specially Protected Area
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Party
ATME	Antarctic Treaty Meeting of Experts
ATS	Antarctic Treaty System
AWIPEV	*Alfred Wegner- Institut Paul Emile Victor*
BIOMASS	Biological Investigations on Marine Antarctic Systems and Stocks
BP	Background Paper
CAML	Census on Antarctic Marine Life
CASE-IPY	Concordia, Antarctica, Seismic Experiment for the International Polar Year
CBD	Convention on Biological Diversity
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCAS	Convention on the Conservation of Antarctic Seals
CDS	Catch Document Scheme
CEA	*Le Commissariat à l'énergie atomique*
CEAMARC	Collaborative East Antarctic Marine Census
CEP	Committee on Environmental Protection
CFP	Common Fisheries Policy
CNES	*Le Centre national d'études spaciales*
CNR	*Consiglio Nazionale delle Richerche*
CNRS	*Le Centre National de la Recherche Scientifique*
COLTO	Coalition of Legal Toothfish Operators
COML	Census on Marine Life
COMNAP	Council of Managers of National Antarctic Programs
CPE	Committee for the Polar Environment
CP	Contracting Party

CPST	*Conseil des Programmes Scientifiques et Technologiques*
CSAGI	*Comité Spécial de l'Année Géophysique Internationale*
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSNA	Italian National Scientific committee for Antarctica
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
DOM-TOM	*Départements/Régions d'outre mer, Territoires, et Collectivités Territoriales d'outre mer*
EC	European Commission
EEC Treaty	The Treaty establishing the European Community
EIA	Environmental Impact Assessment
EIES	Electronic Information Exchange System
EEZ	Exclusive Economic Zone
ENEA	Italian National Agency for New Technologies, Energy and Sustainable Economic Development
ENGO	Environmental Non-governmental Organisation
EPB	European Polar Board
EPC	European Polar Consortium
EPF	*Expéditions Polaires Françaises*
EPICA	European Project for Ice Coring in Antarctica
ERA	European Research Area
ERIC	European Research Infrastructure Consortium
ESF	European Science Foundation
EU	European Union
FAO	Food and Agricultural Organization (United Nations)
GRIP	Greenland Ice Core Project
HIMI	Heard and McDonald Islands
HSM	Historic Sites and Monuments
IAATO	International Association for Antarctic Tour Operators
IAU	International Astronomy Union
ICG	Intersessional Contact Group
ICSU	International Council of Scientific Unions
IFREMER	*Institut français de recherche pour l'exploitation de la mer*
IFRTP	*Institut Français pour la recherche et la technologie polaires*
IGY	International Geophysical Year
IHO	International Hydrographic Organization
IMO	International Maritime Organization
INAF	Italian Institute of Asrophysics
INSU	*Institut National des Sciences de l'Univers*
IP	Information Paper
IPCC	International Panel on Climate Change
IPEV	*Institut Paul Emile Victor*

IPY	International Polar Year
IUCN	International Union for the Conservation of Nature
IUU	Illegal, Unreported, Unregulated
JORF	*Journal Officiel de la République Française*
MNHN	*Musée National d'Histoire Naturelle*
MPA	Marine Protected Area
MRCC	Maritime Rescue Coordination Centers
NET	National Environmental Trust
NGO	Non-Governmental Organisation
NIA	National Interest Analysis
NNS	Non-Native Species
NRSMPA	National Representative System of Marine Protected Areas
OCT	Overseas Countries and Territories (EU)
OPESCT	Parliamentary Office for the Evaluation of Scientific and Technologic Choices
OR	Outermost Regions (EU)
PLT	Polar Large Telescope
POLENET	Polar earth Observing Network
PNRA	*Programma Nazionale di Richerche in Antartide*
RiSCC	Regional Sensitivity to Climate Change
RSMPA	Representative System of Marine Protected Areas
SAR	Search and Rescue
SC-CCAMLR	Scientific Committee of Convention on the Conservation of Antarctic Marine Living Resources
SCAR	Scientific Committee on Antarctic Research
SCAR-Marbin	The Marine Biodiversity Information Network of SCAR
SCIC	Standing Committee on Implementation and Compliance
SPA	Specially Protected Area
TAAF	*Terres Australes et Antarctiques Françaises*
VME	vulnerable marine ecosystem
VMS	Vessel Monitoring System
UNCLOS	United Nations Convention on the Law of the Sea
WP	Working Paper
WSSD	World Summit on Sustainable Development
ZEE	*Zone Économique Exclusive* (EEZ)

Contents

Part II Case Studies

Part III Analysis and Conclusion

Table of conventions and relevant international instruments

United Nations General Assembly Resolution 37/7 (28 October 1982), 'World Charter for Nature.'

United Nations Convention on the Law of the Sea (Montego Bay, 10 December 1982, entered into force 16 November 1994) (1982) 21 I.L.M. 1261.

1985 Agreement between the Government of Australia and Republic of France relating to the Exchange and Communication of Classified Information (Australia-France) (Paris 15 July 1985, entered into force 15 July 1985) Austl. T.S. n° 20.

1988 Convention on the Regulation of Antarctic Mineral Resource Activities (Wellington, 2 June 1988, not yet in force) (1988) 27 I.L.M. 868.

Scientific and Technological Agreement between the Government of Australia and the Government of the French Republic (Australia-France) (Sydney, 24 October 1988, entered into force 30 March 1989) Austl. T.S. n° 10.

1989 Hague Declaration on the Environment (The Hague, 11 March 1989) (1989) 28 I.L.M. 1308.

1991 Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 4 October 1991, entered into force 14 January 1998) 30 I.LM. 1455.

1992 Convention on Biological Diversity (Rio de Janeiro, 5 June 1992, entered into force 29 December 1993) (1992) 31 I.L.M. 818.

United Nations Conference on Environment and Development: Rio Declaration on Environment and Development (Rio de Janeiro, 14 June 1992) 31 I.L.M. 874.

2002 Consolidated Version of the Treaty Establishing the European Community (24 December 2002), Official Journal of the European Communities, C325 (English Edition), Vol. 45.

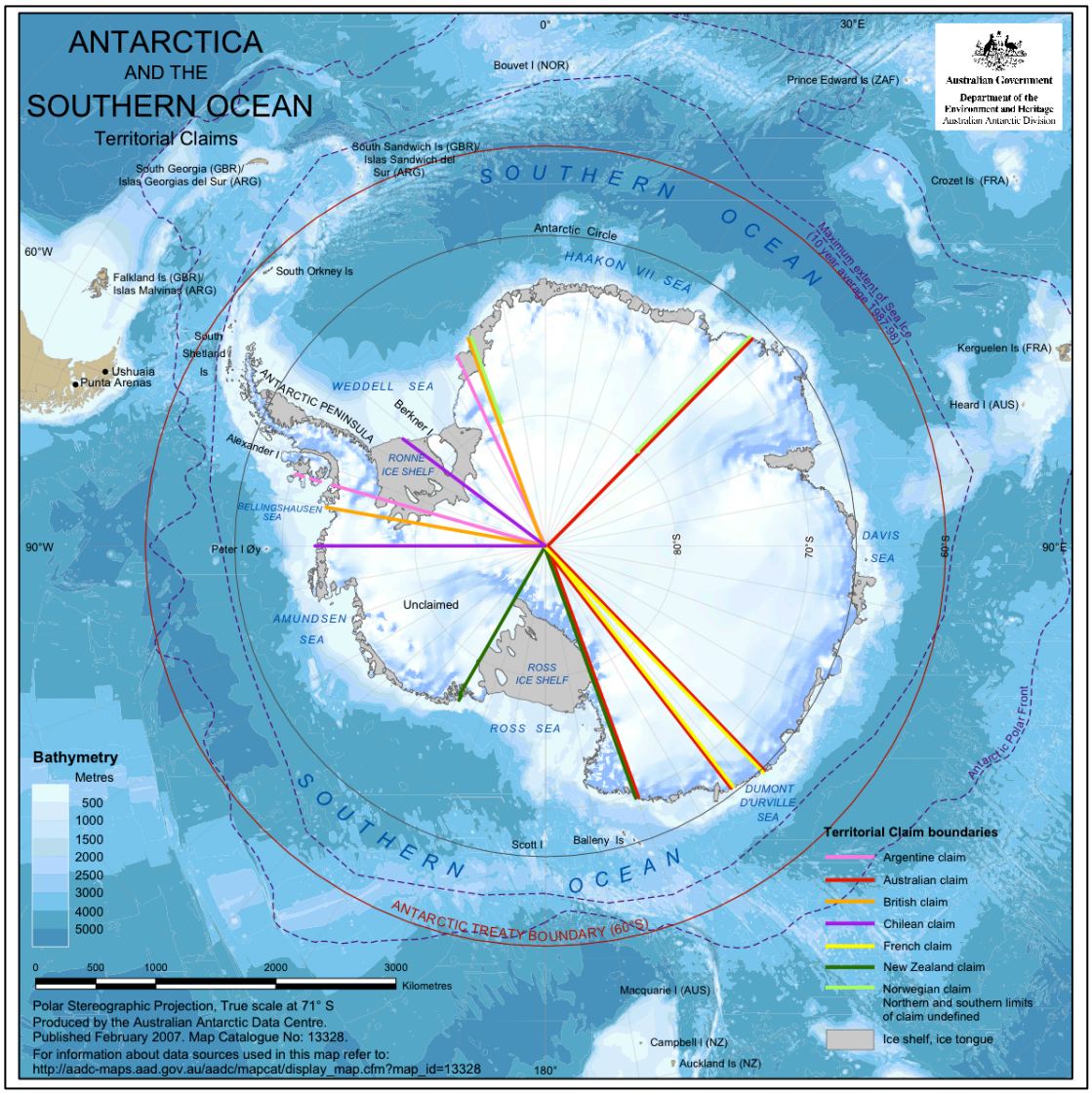
2003 Agreement with the Government of the French Republic on Cooperation in the Maritime Areas Adjacent to the French South and

Antarctic Territories *(TAAF),* Heard Island and the McDonald Islands (Australia-France) (Canberra, 24 November 2003, entered into force 1 February 2005) Austl. T.S. n° 6.

2005 Accord de Coopération Scientifique en Antarctique entre le Gouvernement de la République Française et le Gouvernement de la République Italienne (France-Italy) (Paris, 4 octobre 2005) J.O.R.F. n° 62 du 14 mars 2007.

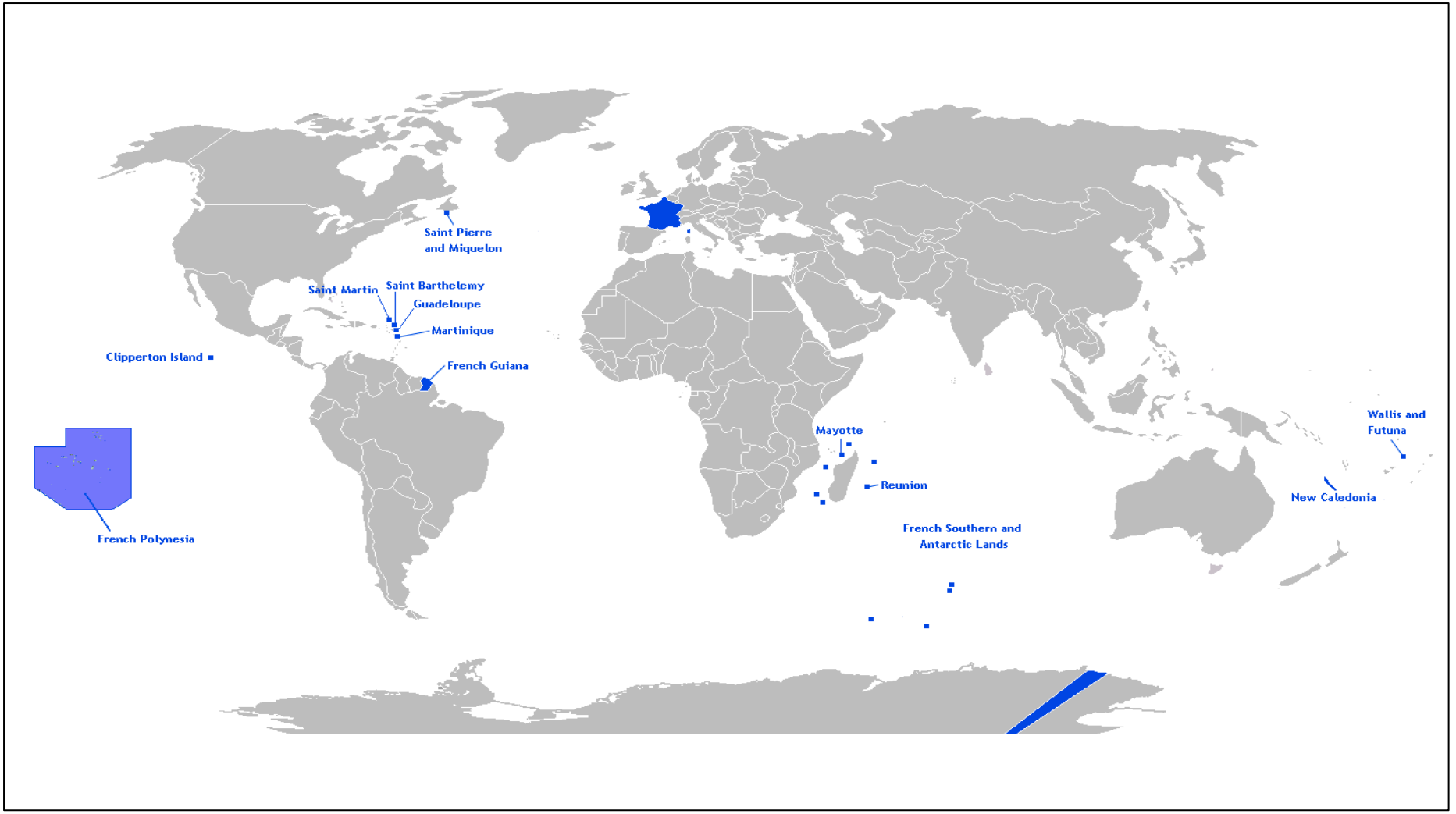
2007 Agreement with the Government of the French Republic on Cooperative Enforcement of Fisheries Laws in the Maritime Areas Adjacent to the French Southern and Antarctic Territories, Heard Island and the McDonald Islands (Australia-France) (Paris, 8 January 2007, entered into force 7 January 2011) Austl. T.S. n° 1.

Antarctic Territorial Claims



Source: Marcus Haward and Tom Griffiths (eds). *Australia and the Antarctic Treaty System: Fifty Years of Influence*. Sydney: UNSW Press, 2011.

France – Overseas Departments & Territories



Source: Areas France Tourism Guide, http://arras-france.com/france-part-i/

1. France and the ATS – Towards a Framework of Analysis

This thesis considers how we attempt to make sense of state cooperation within international regimes, by examining questions surrounding state based incentives and strategies for cooperation. This chapter draws on, and reviews the relevant literature on international relations to provide an analytic framework to the thesis that utilises elements of neoliberal institutionalist theory and insights from Young's approach to regime analysis. The first section of the chapter undertakes a review of the existing theoretical approaches to international relations, and considers how these approaches can be used to examine cooperation between states. The second section centres this thesis within the broad existing literature on international relations. The final section identifies, defines and examines the key variables or analytical criteria that are employed for analysis of the case studies examining France's engagement within the ATS.

Introduction to key theories on international cooperation

In developing this framework of analysis, it is first useful to unpack the assumptions made by alternative schools of thought in international relations about the nature of state actors, and their motivations to cooperate. According to Allison, 'conceptual models both fix the mesh of the nets that the analysts drag through the material in order to explain a particular action or decision and direct him to cast his net in select ponds, at certain depths in order to catch the fish he is after.'[1]

[1] Graham T. Allison, "Conceptual Models of the Cuban Missile Crisis," *The American Political Science Review*, 63.3 (1969): 689-718.

Different conceptual models place states as the key actors in international affairs. Realist or utilitarian models perceive states as 'rational utility maximisers,' primarily concerned with 'power and power distribution.'[2] Neoliberal models do not necessarily envisage more cooperation between states than realist based ones, however, they do propose that there is significantly more 'unrealized or potential cooperation than does realism.'[3] While this study does not ignore insights from realism and liberalism (as the fundamental tenets of both schools of thought are important and relevant regarding the analysis of the role of states, regimes and international cooperation), the principal theoretical approach utilised in this study is complex interdependence theory.[4] This approach utilises a liberal institutionalist lens, according to which the roles played by international institutions and institutional bargaining is emphasised in the development of cooperative arrangements.[5]

Oran Young notes the importance of weighing the 'relative merits' of a range of models, as no single approach taken in isolation offers an adequate explanation of the entire spectrum of 'observable phenomena,' or is likely to

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[2] Carrie A. Holt, Murray B. Rutherford, and Randall M. Peterman, "International cooperation among nation-states of the North Pacific Ocean on the problem of competition among salmon for a common pool of prey resources," *Marine Policy*, 32.4 (2008): 609.
[3] Robert Jervis, "Realism, Neoliberalism, and Cooperation: Understanding the Debate," *International Security*, 24.1 (1999): 47.
[4] In the field of international relations, another theory includes constructivism, which places an emphasis on the role of shared ideas and knowledge. Aspects of constructivist thought are incorporated in sections of Chapter Seven of this thesis – Case Study Analysis, and are based upon Osherenko and Young's account of knowledge-based hypotheses. See, Gail Osherenko and Oran R. Young, "The Formation of International Regimes: Hypotheses and Cases," in *Polar Politics: Creating International Environmental Regimes*, ed. Oran R. Young and Gail Osherenko, 1-21 (Ithaca, New York: Cornell University Press, 1993). For further information on the role of ideas and knowledge in international relations theory see Ernst B. Haas, "When Knowledge is Power: Three Models of Change in International Organizations," in *Studies in International Political Economy*, ed. Stephen D. Krasner and Ernst B. Haas, 237-278 (Berkley: University of California Press, 1990).
[5] Ibid.

provide 'convincing conclusions.'[6] Consequently, Young believes it is unnecessary to make a 'definitive choice' among models, with each offering some important insights into state behaviour and cooperation, although failing individually to provide an entirely complete account of the reality of international relations.[7] Employing more than one theoretical lens, or using overlapping lenses and a variety of analytical tools, enables comprehensive analysis and understanding of the motivations and methods utilised by states in key bilateral and multilateral cooperative arrangements.[8] Referring to this as a 'portfolio approach,'[9] Young points out that when relevant approaches are integrated and synthesised, they have a greater capacity to 'incrementally' build upon our existing understanding of state behaviour, cooperation, and the role of regimes in these dynamics.[10]

Young makes the key point that by evaluating the utility of various analytical 'tools', and keeping the relevant ones at hand, enhances our ability to understand specific cases at a deeper level.[11] Robert Keohane and Joseph Nye similarly perceive global politics as a 'tapestry of diverse relationships,' with the key to understanding the dynamics of these relationships, dependant upon the ability to identify and select which theoretical approach, or combination of approaches to employ, in undertaking a comprehensive

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[6] Oran Young, *International Cooperation: Building Regimes for Natural Resources and the Environment.* (New York: Cornell University Press, 1989), 213.
[7] Oran Young, *The Institutional Dimensions of Environmental Change – Fit, Interplay, and Scale* (Cambridge, Mass: The MIT Press, 2002), 14.
[8] Oran Young, "Effectiveness of International Regimes: Existing knowledge, cutting-edge themes, and research strategies," *Proceedings of the National Academy of the Sciences (PNAS) Early Edition* (2011): 1.
[9] Oran Young, "Sugaring Off: Enduring insights from four decades of research on environmental governance," paper presented to *The Colorado Conference on Earth System Governance* (Colorado State University, Colorado, 17-20 May 2011), 24; Oran Young, *The Institutional Dimensions of Environmental Change* (Cambridge, Mass: The MIT Press, 2002), 14.
[10] Ibid.
[11] Young, *The Institutional Dimensions of Environmental Change*, 102.

examination of international political phenomena.[12] Like Young, they note the value of keeping in mind these different, yet at times, overlapping perspectives in examining the key questions raised in a particular study.

Several theoretical arguments are considered in order to identify the relevance of some elements of international relations theory as explanatory variables for international cooperation. In reflecting upon the conditions that lead to state cooperation, using a framework informed by complex interdependence provides an approach to address the research questions set out in this study. As Keohane and Ostrom note, 'any theoretical approach to understanding cooperation and discord at local and global levels needs to recognise the multiplicity of variables that jointly affect outcomes.'[13] However, in order to increase our knowledge, the set of variables subject to analysis must be limited. This study focuses on two such variables: sources, and methods of cooperation.

(i) Towards interdependence

Emerging as a response to neorealism, 'neoliberal or interest based theories of regimes have been extraordinarily influential in the past decade and have come to represent the mainstream approach to analysing international institutions.'[14] In an attempt to address the problems of 'cheating and relative gains' espoused by realists, interdependence theorists introduced the concept of regimes to assist in explaining the capacity and desire of states to 'mitigate

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[12] Robert O. Keohane, and Joseph S. Nye, *Power and Interdependence* 3rd Ed. (New York: Longman Publishing, 2001), 4.
[13] Robert O. Keohane, and Elinor Ostrom (eds.), *Local Commons and Global Interdependence* (London: Sage Publications, 1995), 4.
[14] Andreas Hasenclever, Peter Mayer, and Volker Rittenberger, *Integrating Theories of International Regimes* (Cambridge: Cambridge University Press, 2002), 4.

anarchy and facilitate cooperation,' in the international system.[15] The foundations of regime theory, can be traced to works that emerged in the 1970s on the subject of economic interdependence between states – most notably, Keohane and Nye's book entitled *Power and Interdependence*, and also the various works of preeminent international relations scholar and regime theorist, Oran Young.[16]

The rise in levels of global interdependence (particularly evident in the post Cold War era) initiated major transformations to the international political system. Most notably, it has resulted in significant changes to inter-state relations due to the unprecedented proliferation of international regimes, and the subsequent impact on state behaviour.[17] Consequently, interdependence theory is a highly relevant analytical concept in assessing the dynamics of international cooperation within multilateral regimes.

Despite the fact that states remain the 'central protagonists' in the global political arena, growing interdependence within the international environmental realm has restricted the ability of states to 'insulate' themselves from collective environmental problems.[18] The 1992 United Nations Conference on the Environment and Development (UNCED) officially brought the attention of the international community to the indisputable fact that global environmental issues were increasingly 'trans-

[15] Ibid, 109.
[16] Denise K. DeGarmo, *International Environmental Treaties and State Behavior: Factors Influencing Cooperation* (New York: Routledge, 2005), 9.
[17] Srini Sitaraman, *State Participation in International Treaty Regimes* (Surrey: Ashgate Publishing, 2009), 18.
[18] DeGarmo, *International Environmental Treaties and State Behavior,* 2; Jospeh Szarka, *The Shaping of Environmental Policy in France* (New York: Berghahn Books, 2002), xii.

boundary,' or 'interdependent' in nature, and therefore required collective responses.[19]

In recent decades, increasing interdependence across issue areas has promoted a rise in the demand for regimes in order to manage problems necessitating collective solutions.[20] Young anticipates that the 'side effects' associated with increasing levels of interdependence will become 'more ubiquitous in connection with the operation of international regimes,' and that these effects will often 'initiate chain reactions of considerable magnitude.'[21] The widening scope and magnitude of contemporary global environmental issues, means that the capacity of states to protect themselves from the consequences of 'political inaction' is limited, and it is increasingly problematic for them to address environmental issues in political isolation.[22]

Casting the net – developing a framework of analysis

Applied to the international political system, complex interdependence refers to 'situations characterised by reciprocal effects among countries or among actors in different countries,' and results in 'international transactions across international boundaries.'[23] Living 'in an era of complex interdependence,' in which change and continuity are defining features of the contemporary global political environment, complex interdependence theory can be perceived as an attempt to not only 'understand contemporary reality,' but

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[19] Ibid. See also, David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff (eds.), "Introduction and Overview," in *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice* (Cambridge: the MIT Press, 1998), 1.
[20] Robert O. Keohane, "The Demand for International Regimes," *International Regimes – A Special Issue of International Organisation* 36.2 (1982): iii.
[21] Oran Young, *International Governance: Protecting the Environment in a Stateless Society* (New York: Cornell University Press, 1994), 151.
[22] Szarka, *The Shaping of Environmental Policy in France,* xii.
[23] Ibid.

also a way for states to adapt to fundamental changes in the current international political system through collaboration and cooperation.[24]

Three main characteristics define complex interdependence: First, the existence of multiple channels of contact among society, which rests upon the premise that states are not the only units, or actors operating in the international system, but also that states do not always operate as 'coherent units.'[25] Adding to this, Sitaraman notes that rising levels of international exchange between states leads to the development of conditions of complex interdependence, and enhances the capacity of multilateral institutions to 'set global policy agendas.'[26] Second, a lack of clear hierarchies of issues among interstate relationships, means that as the domestic policy agendas of governments continue to widen, it is becoming increasingly difficult to distinguish clearly where the domestic policies of states end, and where foreign policies begin.[27] With the domestic policies of different states impinging upon one another more frequently, the number of issues relevant to foreign policy increases, and relationships between states become more closely intertwined, and increasingly characterised by interdependence and complexity.[28] Third, 'where complex interdependence prevails,' the use of military force is not only irrelevant, but also in most cases, an inappropriate means of goal attainment.[29]

Complex interdependence can be perceived as a hybrid approach, by blending and synthesizing certain key strands of realist and liberal

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[24] Ernst B. Haas, "Why Collaborate? Issue Linkage and International Regimes," *World Politics*, 32.3 (1980): 358.
[25] Keohane and Nye, *Power and Interdependence,* 20.
[26] Srini Sitaraman, *State Participation in International Treaty Regimes*, 18.
[27] Keohane and Nye, *Power and Interdependence,* 3-4.
[28] Ibid.
[29] Ibid, 20.

institutionalist thought. Keohane and Nye believe that rather than being diametrically opposed, the theories of realism and liberalism can actually be complementary.[30] Since neither the conditions of complex interdependence, nor realism are universal, there is a need to blend, and integrate elements of these theories to identify, and consider the validity of the key tenets of one or the other.[31] While interdependence theorists do not overlook the validity of some realist assumptions – most notably, the importance of state interests and power in influencing the international agenda (states remain the principal actors), they do provide a robust critique. States are not the only important actors in international affairs, a clear hierarchy of issues does not exist, and force does not represent the most effective policy instrument. State systems do not operate in insolation in the international system, as multiple channels of contact available to states (particularly through institutional arrangements) influence developments in the international political system, and enhance opportunities to pursue cooperation.

Supporting this view, Sitaraman adds that although the proliferation of international institutions has not 'eclipsed state power,' it has resulted in a political reorientation of state behaviour – states are now increasingly under pressure to secure 'governance rights and policy sovereignty has eroded considerably in certain policy areas making states more vulnerable to international compulsions.'[32] Ultimately, states can and do cooperate, and have the capacity to do so outside of their national interests – the sole pursuit of states is not necessarily power.[33]

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[30] Ibid, xii.
[31] Ibid, ix.
[32] Sitaraman, *State Participation in International Treaty Regimes*, 18.
[33] Ibid.

Liberal institutionalists perceive institutions as 'an integral part of a system characterised by complex interdependence,' and are concerned with institutions that can arrange jointly profitable arrangements and compromises.[34] Consequently, liberal institutionalist theory has a strong capacity to 'address environmental problems and presents an optimistic view regarding the prospects for cooperation between states.'[35] Liberal institutionalists do not believe that states occupy the central role in the international system, and do not accept that states are 'unitary or rational actors.'[36] While neoliberals do not deny that composed of autonomous rational states, the nature of the international system is essentially anarchic, they argue that this does not preclude the development of effective cooperation achieved through the creation of regimes and institutions.[37]

According to Jervis, the 'potent' role of institutions,[38] can alter the nature of the international system by 'influencing state preferences and state behaviour, through a variety of methods that may create strong incentives for cooperation.'[39] By developing robust institutions that are capable of increasing mutual welfare gains on the basis of comparative advantage, regimes help self-interested states to coordinate their behaviour such that they may avoid collectively suboptimal outcomes.[40] Navari goes as far as stating that actors operating within the international system, should

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[34] Margaret P. Karns, and Karen A. Mingst, *International Organizations: the Politics and Processes of Global Governance*, 2nd Ed. (Boulder: Lynne Rienner Publishers, 2010), 457.
[35] DeGarmo, *International Environmental Treaties and State Behavior*, 9.
[36] Joseph M. Grieco, "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism," *International Organization* 42.3 (1988): 489.
[37] Young, "Sugaring Off," 16.
[38] Jervis, "Realism, Neoliberalism, and Cooperation," 42.
[39] Cornelia Navari, "Liberalism," in *Security Studies: An Introduction,* ed. Paul D. Williams, 29-43 (Abingdon: Routledge Taylor and Francis Group, 2008). See also, Andrew Moravcsik, "Taking Preferences Seriously: A Liberal Theory of International Politics," in *Theory and Structure in International Poltical Economy – An International Organization Reader*, ed. Charles Lipsom and Benjamin Cohen, 32-73 (Cambridge, Mass: The MIT Press, 1999).
[40] Sitaraman, *State Participation in International Treaty Regimes*, 19.

'promote institutionalisation' as a means of enhancing the collective interest.[41]

Liberal institutionalists maintain that international institutions both promote, and foster negotiation and cooperation between states, coordinate behaviour and initiate opportunities for national decision making,[42] whilst also providing constraints on state behaviour.[43] States therefore have the capacity to work together, and 'do so especially with the assistance of international institutions.'[44] By enabling states to gain a mutual advantage, reduces the possibility of international anarchy by encouraging trust and limiting fear among states in the international system.[45] The potential for cooperation is increased, as the 'frequency and durability of interactions between states' also increases.[46]

International Regimes

The international system has experienced an 'extraordinary surge' of 'intense interest' in international regimes over recent decades – particularly in relation to multilateral environmental agreements.[47] Nevertheless, in spite of the significant level of scholarly analysis undertaken on regimes since the

[41] Navari, "Liberalism," 40.
[42] Robert Jackson and Georg Sorensen, *International Relations – Theories and Approaches*, 3rd Ed. (New York: Oxford University Press, 2007), 108.
[43] Karn and Mingst, *International Organizations*, 457.
[44] Grieco, "Anarchy and the Limits of Cooperation," 486.
[45] Robert O. Keohane, *International Institutions and State Power: Essays in International Relations Theory* (Boulder: Westview Press, 1989).
[46] Ibid.
[47] Oran Young, "Institutional Linkages in International Society: Polar Perspectives," *Global Governance,* 2 (1996): 1; Oran Young, "International Regimes: Problems of Concept Formation," *World Politics,* 32.3 (1980): 331.

1970s, ambiguity, debate, and disagreement surrounding the capacity to determine a concrete definition of regimes persists in academic circles.[48]

Young broadly defines regimes as 'social institutions governing the actions of those involved in specific activities or sets of activities.'[49] Regimes contribute to the definition of social practices, and recognised roles by linking together 'clusters of rules or conventions' that guide the behaviour of the participants at the international level.'[50] Similarly, Keohane and Nye see regimes, as 'sets of governing arrangements' that 'regularize behaviour and control its effects.'[51] In terms of the elements included in regimes, theorists such as Haas and Krasner see regimes as 'mutually coherent sets'[52] of 'implicit or explicit principles, norms, rules and decision making procedures' around which the expectations of actors converge in a given area.[53]

A common thread throughout these definitions is that regimes inherently involve norms, rules and procedures. Noting the importance of differentiating between principles and norms (in their role of providing the definitive characteristics of a regime), and rules and procedures (that may be varied and changing depending on the type of regime and the actors involved), Krasner clarifies that 'changes in rules and decision-making procedures are changes in regimes, provided that principles and norms remain unaltered.'[54]

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[48] Young, *The Effectiveness of International Environmental Regimes*, 1.
[49] Young, *International Cooperation*, 12-13.
[50] Oran Young, "Institutional Linkages in International Society," 1.
[51] Keohane and Nye, *Power and Interdependence*, 16.
[52] Ernst Haas, "Technological Self Reliance for Latin America: The OAS Contribution," *International Organization*, 34.4 (1980): 553.
[53] Stephen D. Krasner, "Structural causes and regime consequences: regimes as intervening variables," *International Regimes – A Special Issue of International Organization* 36.2 (1982): 186.
[54] Ibid, 187.

(i) The reasons for regimes

Given that 'no patterned behaviour can sustain itself for any length of time without generating a congruent regime,' according to Young, regimes represent a 'pervasive characteristic of the international system.'[55] In considering the role and objectives of international regimes, a number of key characteristics can be identified. First, they provide for, and facilitate enhanced communication channels, and information exchange mechanisms between states, thereby facilitating the creation of agreements – Keohane and Martin state that 'if one can secure more information, it may be possible to follow policies that more nearly maximize utility.'[56]

As regimes constitute patterns of behaviour at the international level they represent an instrumental medium for institutionalising sustained cooperative engagement between states that facilitates the development of agreements. According to Lipson, regardless of whether they are formal or informal in nature, international agreements are all 'promises about international behaviour.'[57] If one accepts the belief that the purpose of regimes is to 'facilitate agreements,' then these factors are the elements that not only facilitate cooperation, but are also those that are likely to encourage the occurrence of a 'type of cooperation that is more than the following of short run self-interest.'[58]

Second, regimes have the capacity to shape the behaviour of states in the international system – by influencing state incentives and motivations, and

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[55] Ibid, 185.
[56] Robert O. Keohane and Lisa L. Martin, "The Promise of Institutionalist Theory," *International Security*, 20.1 (1995): 44.
[57] Charles Lipson, "Why are some International Agreements Informal?" *International Organization*, 45.4 (1991): 496.
[58] Krasner, "Structural Causes," 187.

modifying both individual and collective understandings.[59] Bull stresses that institutions (developed within regimes) 'help to secure adherence to rules by formulating, communicating, administering, enforcing, interpreting, legitimating and adapting them.'[60] Neoliberals uphold that via harmonisation processes, states have the capacity to develop 'anarchy mitigating institutions' to improve their potential for mutual gains – for example, international organisations and treaties.[61] In turn, these institutions (in conjunction with their 'associated rules and norms'), 'facilitate exchanges among rational, egoistic, and security maximising states by reducing uncertainty and transaction costs.'[62]

Third, regimes (multilateral regimes in particular), through limiting uncertainty, and reducing transaction costs, increase coordination and transparency,[63] enhance the credibility of commitments, establish focal points for coordination, and in general facilitate the operation of reciprocity' between states.[64] Young stresses the importance of maintaining 'feelings of fairness and legitimacy' amongst members of treaties – particularly in relation to regimes that necessitate ongoing and active participation of members in order to achieve successful outcomes,[65] as where a 'veil of uncertainty' exists 'straightforward calculations of benefits and costs will not suffice as a basis' for decision-making.[66]

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[59] Ibid.
[60] Headley Bull, *The Anarchical Society: A Study of Order in World Politics*, (New York: Colombia University Press, 1977), 54.
[61] Sitaraman, *State Participation in International Treaty Regimes*, 16.
[62] Young, *International Governance*, 16.
[63] Keohane and Martin, "The Promise of Institutionalist Theory," 42.
[64] Young, *International Cooperation*, 37.
[65] Young, "Effectiveness of international environmental regimes," 3.
[66] Young, "Sugaring Off," 14.

Regimes can be perceived as 'responses to collective action problems that pose challenges for the achievement of cooperation at the international level.'[67] The broad purpose of regimes is to enhance the capacity of states to cooperate in a given issue area.[68] Environmental regimes have the capacity to influence the nature of the international system, and positively alter the behaviour of states by 'boosting' what Levy, Keohane, and Haas refer to as the 'three C's' – increasing governmental *concern*, enhancing the contractual environment by reducing transaction *costs*, and improving national *capacity*.'[69] Jervis maintains that regimes lead not only to 'norms and expectations that facilitate cooperation,' but also to modes of cooperation that suggest 'more than the following of short-run self interest.'[70]

Institutions that develop and evolve within, and adjacent to international regimes, encourage and strengthen coalition building both within, as well as between states, and improve capacity for state engagement in coordinated policy decision-making.[71] All these factors have a strong potential to raise the awareness of actors of the costs of both action and inaction, and are likely to influence participants to 'favour arrangements that produce results that are equitable' to all involved.[72] Keohane and Martin describe the nature of institutions as 'interactive,' suggesting that variations to the extent of their effect on outcomes necessarily depends upon the conceptualisation of power and interests at play in the international system.[73] They also note that institutions can provide 'constructed focal points' that make particular

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[67] Young, *International Cooperation*, 5.
[68] Hasenclever et al., "Integrating Theories of International Regimes," 2.
[69] Marc A. Levy, Robert O. Keohane, and Peter M. Haas, "Institutions for the Earth: Promoting International Environmental Protection," *Environment*, 34.4 (1992): 12-29.
[70] Jervis, "Security Regimes," 357.
[71] Krasner, "Structural causes," 64; Keohane and Nye, *Power and Interdependence*, 104.
[72] Ibid.
[73] Keohane and Martin, "The Promise of Institutionalist Theory," 42.

outcomes prominent, by allowing cooperation to occur by mitigating 'engagement fears' of states – such as the realisation of unequal gains from cooperation.'[74]

According to regime theorists, these factors primarily occur through the institutions and processes that evolve around international regimes.[75] Therefore, they are not the only major outcome of institutions, but also important incentives that motivate states to participate in them in the first place.

Actors and interests

With the number and types of actors currently engaging in the international arena 'greater than ever,' the capacity to identify and analyse the interests of participants is becoming increasingly more complex.[76] In considering the different types of actors that participate in the international political arena, it is important to note that while at times their interests may 'overlap,' they are 'seldom identical,' and moreover, are 'frequently incompatible.'[77] Consequently, consideration of the interests of various actors has the capacity to skew the common, but rather misguided perception that states always act in a coordinated and coherent fashion. For Young, taking account of 'the complex interactions of these actors as they pursue their different goals, objectives, and agendas is highly important in relation to the study of

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[74] Ibid, 45.
[75] Krasner, "Structural Causes," 64; Keohane and Nye, *Power and Interdependence,* 104.
[76] Keohane and Nye point out that while states were the primary actors in oceans policy up until the 1970s when a combination of economic and environmental issues came to the fore, the increased involvement and participation of non-state actors since this time has necessitated the development of agreements through enhanced cooperative inter-state processes. This indicates the rise of complex interdependence behaviour among states.
[77] Oran Young, *Resource Management at the International Level: The Case of the North Pacific* (New York: Nicols Publishing Company, 1977), 27.

environmental management.[78] This is particularly the case in the current political system where the goals of actors are continuously 'expanding' and 'interconnecting.'[79]

(i) The complexities of national interest

From a theoretical perspective, realists maintain that states will only develop institutions if 'they seek the goals that the institution will help them reach,' and that cooperation will only ensue on this basis.[80] Neoliberals believe that institutions are capable of more of an 'independent impact,' outside of being 'instruments of statecraft,' and that states participate within them to enhance cooperation.[81] According to complex interdependence theory, 'national interests will be defined differently on different issues, at different times, and by different governmental units' – consequently, the goals of states will vary according to issue area.[82] Furthermore, given the lack of definitive hierarchy amongst issues, goals may not necessarily be clearly identifiable or closely related, and difficult to define as interdependencies between states continue to widen in both scope, as well as complexity.

Although the interests of one state will never completely, or exactly coincide with the interests of another on any issue, there are situations where states cooperate with the intention of establishing an agreement on the basis of identified overlapping, or very similar interests. Bull adds that in negotiating cooperative agreements, while 'two parties perceive themselves as having different interests, but in which they also recognize the possibility that these

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[78] Ibid, 28.
[79] Haas, "Why Collaborate?" 377.
[80] Robert Jervis, "Realism, neoliberalism, and cooperation," 54; Charles Glasner, "Realists as Optimists: Cooperation as Self Help," *International Security*, 19.3 (1994-1995): 85.
[81] Jervis, "Realism, neoliberalism, and cooperation," 54.
[82] Keohane and Nye, *Power and Interdependence,* 30.

interests overlap at some point,' situations may also involve the existence of common interests amongst parties in the first place.[83]

Keohane and Ostrom concur that 'heterogeneity of interests can facilitate cooperation,'[84] and the existence of 'communalities of interest' is fundamental to the capacity of states to realise the mutual benefits of cooperative behaviour.[85] Actors participating in the international arena will invariably 'introduce different goals into various groups of issues,' thereby further complicating an already intricately complex, multilevel matrix of interests.[86] States need to be able to identify shared or common interests, and then 'plan how to maximize these.'[87]

However, unless it is clear what 'concrete ends or objectives' states either intend to, or actually do pursue, national interest as a criterion in itself 'provides us with no specific guidance either in interpreting the behaviour of states or in prescribing how they should behave.'[88] In the instances where 'national ends are defined and agreed upon' (particularly in relation to the means by which state objectives can be pursued, and when the concept of national interest is considered in conjunction with other relevant objectives), it provides a useful tool for examining and analysing the cooperative behaviour of states.[89]

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[83] Bull, *The Anarchical Society*, 171.
[84] Keohane and Ostrom, *Local Commons*, 9. See also, Kenneth W. Abbott and Duncan Snidal, "Hard and Soft Law in International Governance," *International Organization*, 54.3 (2000): 422.
[85] Raymond Hopkins and Donald Puchala cited in Krasner, "Structural causes," 192.
[86] Keohane and Nye, *Power and Interdependence*, 26.
[87] Bull, *The Anarchical Society*, 64.
[88] Ibid, 66-67.
[89] Ibid, 63.

The existence of this complex global political matrix comprised of intricate domestic and international policy networks covering multiple and overlapping issue areas, and involving a variety of actors, leads us to question a key realist belief – that states always act in their own self interest. While complex interdependence theory acknowledges that power distribution and routine political processes may vary by issue area at the same time as variations to the goals of actors, it sees the potential and likelihood for such 'congruence' as considerably more limited than does realism.[90]

Keohane and Nye note that this tends to be the case in situations where a state pursues a variety of goals simultaneously. Lack of 'congruence' may be exacerbated as different government components increasingly communicate, and interact outside of traditional channels – most notably, foreign affairs departments.[91] In these situations, the capacity for states to maintain 'centralized control,' becomes more difficult.[92] This often affects the potential for states to behave in a coherent and unified fashion when dealing with their foreign counterparts and partners. Such conditions have significant implications in terms of the interpretation of national interests, and also major consequences for not only the methods of state to state engagement, but also more importantly, for outcomes.

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[90] Keohane and Nye, *Power and Interdependence*, 26.

[91] Keohane and Nye point out that this is more likely to occur at the lower levels of governance, between and across departments and agencies at the national level. With each department or agency necessarily pursuing their 'own concerns,' achieving adequate levels of compromise becomes increasingly difficult, and consequently, each side may experience the maintenance of coherent and consistent policy patterns challenging. See Keohane and Nye, *Power and Interdependence,* 20-32.

[92] Ibid.

Persistent ambiguity surrounding the concept of national interests raises a number of significant challenges – not only in terms of our ability to identify clearly the key interests being pursued, and by whom, but also the problems encountered by the actors involved in making policy decisions. This is where Keohane and Nye highlight the critically important role communication plays in gradually initiating changes to the ways in which states perceive self-interest. They maintain that states with more 'centralized political traditions,' and more adequate resources dedicated to issue areas, have a greater capacity to maintain both consistent and coherent patterns of national interest, and are therefore in a better position to 'manipulate uneven interdependence.'[93]

States pursuing individual decision-making, based purely on self-interest are in today's 'interdependent' international political climate, likely to experience suboptimal outcomes. In the instances where states realise that 'pareto-optimal outcomes' are unachievable 'through uncoordinated individual calculations of self-interest,' regimes will be perceived as significantly important in terms of their impacts on cooperation.[94] Concurrently, Haas adds that in an increasingly complex global system comprised of sovereign states, 'ad hoc, individualistic calculations of interest' cannot provide the level of coordination and coherency states need to operate effectively in the current international political environment.[95] Keohane and Ostrom also note that in terms of 'configuration of interests,' it is not surprising that 'as the perceived ratio of benefits to costs of taking collective action rises,' the potential for cooperation increases.'[96] States can

[93] Keohane and Nye, *Power and Interdependence,* 30.
[94] Krasner, "Structural Causes," 191.
[95] Ernst Haas cited in Krasner, "Structural causes," 191.
[96] Keohane and Ostrom, "Introduction," 9.

come to realise mutual interests through 'tacit cooperation, formal bilateral and multilateral negotiation, and the creation of international regimes.'[97]

International cooperation

Broadly described by Krasner as 'adherence to group goals,'[98] and by Young as 'interactions among the members of society,'[99] cooperation cannot be taken for granted – it is intrinsically difficult to achieve, and maintain in the international system. As factors such as global population growth, technological advancement, and rising societal expectations, 'generate more severe conflicts of interest,' exacerbating the already significant pressures on the global environment, Young predicts that cooperation will become increasingly 'elusive' in the international sphere.[100]

Given the substantial increase in the number and scope of institutions in the contemporary international system, it is important to consider how best to explain or account for patterns of institutional cooperation, and to question the extent to which this behaviour is 'a product of conscious efforts' on behalf of states to pursue their own interests, as 'opposed to de facto consequences of interactive behaviour?'[101] Considering that cooperation is so difficult to achieve, and challenging to maintain, it is pertinent to consider 'the factors that motivate states to discard the limitations imposed on them by the self help international system and engage in actions that could potentially contradict their security or sovereignty imperatives.'[102] Scovazzi

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[97] Kenneth Oye, "Explaining Cooperation Under Anarchy: Hypotheses and Strategies," *World Politics,* 38.1 (1985): 1.
[98] Williamson cited in Krasner, "Structural Causes," 163.
[99] Young, *International Cooperation*, 1.
[100] Ibid, 4.
[101] Oran Young, "Instituitional Linkages in International Society," 3-4.
[102] Hawkins cited in Sitaraman, *State Participation in International Treaty Regimes,* 15.

and Treves identify several typical behaviours, or courses of action that tend to indicate an 'intention to cooperate.'[103] These are generally characterised by the provision and sharing of information, and 'consultation, negotiation, and mutual assistance, which play an essential role in the field of the environment.'[104]

(i) Incentives for international cooperation

In the global environmental political sector, international cooperation has increasingly become a common strategy for dealing with collective problems. According to DeGarmo, state incentives for cooperation consist of two stages: first, states must realise and acknowledge that cooperative action is either a useful or necessary method to pursue – this involves promoting a wider recognition of issues, engaging in knowledge sharing, building consensus on causes and potential solutions, setting mutually agreed upon objectives, and fundamentally deciding on a course of action. Stage two consists of interactions between states in order to achieve a given collective outcome – this includes determining appropriate responses, developing and pursuing cooperative methods and strategies, and the ability and will to deal with potential impediments to cooperation.[105]

While 'states retain substantial powers to resist the influence of treaty based regimes,' they are also simultaneously 'being influenced' by regimes to 'modulate and modify their behaviour over a period of time'– this consequently affects the nature and scope of the domestic and foreign policy

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[103] Tullio Scovazzi and Tullio Treves (eds.), *World Treaties for the Protection of the Environment* (Milan: Instituto per l'Ambiente, 1992): 28.
[104] Ibid.
[105] DeGarmo, *International Environmental Treaties and State Behavior*, 4.

actions of states.[106] Despite the fact that states may perceive cooperation to be a required undertaking, and may even agree upon the cooperative strategies for realising a desired collective outcome, cooperation also frequently results in certain costs to the states involved. According to Young, in operating in the international sphere, states 'frequently experience powerful incentives to accept a variety of behavioural constraints in the interests of maximising their own long term gains, regardless of their attitudes towards the common good.'[107] For example, such constraints may include restrictions on the capacity for states to undertake decisions, or act in a purely autonomous fashion. Cooperation may also provide states with benefits (such as the reaffirmation of sovereignty, increased international credibility, and enhanced economic prosperity) they could not realise outside of cooperative arrangements. It is when these benefits outweigh the costs that states experience strong incentives to engage in cooperation.[108]

(ii) Obligations to cooperate

Principle 24 of the Stockholm Declaration states that 'international matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries,' and that cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all states.'[109] Consequently, Scovazzi and Treves highlight the fact that in

[106] Ibid, 60.
[107] Young, *International Cooperation,* 199.
[108] Young, "Sugaring Off," 12.
[109] Following the United Nations Conference on the Human Environment held in Stockholm 5-10 June 1972, the Declaration was adopted on 16 June 1972 by the United Nations.

relation to the environment, international cooperation may be perceived as a necessary element, rather than a free choice – the obligation to cooperate 'manifests itself as a duty to act in good faith, in order to achieve an objective of mutual interest to the states directly concerned and of general interest to the international community as a whole.'[110]

Highlighting the 'intertwined'[111] nature of international politics and international law, Scovazzi and Treves state that the most 'dramatic aspect' of contemporary environmental law is the 'awareness of global risks which can threaten the planet as a whole' (as outlined in the Brundtland Report),[112] and which necessarily calls upon states to engage cooperatively to address, or mitigate against collective problems that may often constitute potential risks at the international level.[113] International cooperation is of the utmost importance in addressing global environmental risks, particularly in relation to areas of resource development and exploitation, climate change, the threat of increasing environmental degradation, biodiversity loss, and the long-term, cumulative effects of human impacts upon the environment. The development of legally binding instruments at the international level – such as bilateral and multilateral agreements, is increasingly a method utilised by states to address issues requiring a collective, and indeed, international approach.[114]

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[110] Scovazzi and Treves, *World Treaties for the Protection of the Environment,* 27.
[111] Abbott and Snidal, "Hard and Soft Law in International Governance," 455.
[112] The Report of the Brundtland Commission published in 1987 and adopted by the United Nations General Assembly by Resolution 42/187. One of the key mandates of the Report was to enhance international cooperation in the areas of the global environment and development. See, http://www.un-documents.net/wced-ocf.htm.
[113] Scovazzi, and Treves, *World Treaties for the Protection of the Environment,* 17.
[114] Ibid, 18.

(iii) Strategies for international cooperation

As has been outlined in the above section, situations exist in which state actors (assumed to be acting rationally) experience powerful incentives to refrain from 'unconstrained independent decision making,' in light of the recognition that individualistic self interested behaviour can result in undesirable or sub-optimal outcomes.[115] As a result, interest based calculations often leads states to prefer joint decision-making under some circumstances – most often situations in which the states can perceive that the costs of autonomous action outweigh the benefits. To achieve this, states must cooperate, or at the least, coordinate their behaviour.[116]

Young puts forward several propositions or hypotheses necessary for the successful occurrence of international cooperation. The first of these suggests that there must be a convergence of expectations amongst actors. This involves reaching agreement on mutually acceptable outcomes that reduce the potential for losses, and that actors find not only efficient, but also equitable.[117] A second proposition identified by Young is that the existence of feasible joint gains, and the potential for optimal outcomes for the actors involved must be recognisable.[118] In relation to this point, Young draws attention to the fact that 'rational egoists making choices in the absence of effective rules or social conventions can easily fail to realise feasible joint

[115] Arthur A. Stein, "Coordination and Collaboration: Regimes in an Anarchic World," *International Organization,* 36.2 (1982): 301
[116] Ibid, ii.
[117] Young, *International Governance*, 368. See also, Oran Young, *The Effectiveness of International Environmental Regimes – Causal Connections and Behavioral Mechanisms* (Mass: Massachusetts Institute of Technology, 1999).
[118] Osherenko and Young "The Formation of International Regimes," 11.

gains, ending up with outcomes that are suboptimal for all parties concerned.'[119]

A third proposition suggests that participants must 'envisage a zone of agreement.'[120] A shared and agreed upon perception of the issue/problem under consideration, and the ability to reach consensus amongst participating actors is essential.[121] As the global community continues to demonstrate a general trend away from isolationist political processes, and towards enhanced integration, it is clear that trans-boundary and collective environmental problems are unable to be solved via the implementation of military strategies. Collective action on environmental issues can only occur 'through extensive political processes,' that necessarily includes high levels of 'interdependent decision making,' that can ultimately only be achieved through international cooperation.[122]

A fourth proposition of Young's suggests that while cooperative action may to a certain extent impinge upon actor's 'freedom of action,' actors also experience significant incentives to cooperate by establishing 'salient solutions (or focal points)' that coordinates the behaviour of 'interdependent actors.'[123] This facilitates the capacity of actors to pursue opportunities for 'mutually beneficial deals,' [124] and increases the 'probability of success in

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[119] Oran Young, "Review Articles – International Regimes: Towards a New Theory of Institutions," *World Politics,* 39.1 (1986): 109; Young, *International Cooperation,* 211.
[120] Ibid, 224.
[121] Young, *International Governance,* 120; Oran Young, *Governance in World Affairs* (Ithaca, New York: Cornell University Press, 1999), 75.
[122] Young, *International Cooperation*, 211.
[123] Ibid, 85.
[124] Young, *International Governance,* 363.

institutional bargaining,'[125] that leads to the realisation of 'feasible joint gains.'[126]

Engaging in cooperation is one way that states may accrue the benefits associated with institutions – this often occurs through integrative, or interest based bargaining. According to Young, these strategies are particularly evident in the international sphere, where the 'political landscape' is comprised of 'dominant actors' seeking to negotiate terms and influence outcomes that are as close to their interests as possible.[127] Interest based bargaining focuses on the development of mutually beneficial agreements between states based upon the interests of each party.

In pursuing integrative bargaining, states are driven primarily by 'a desire to achieve an outcome as favourable to their own interests as possible.'[128] Also referred to as 'mixed motive' interaction, integrative bargaining involves the potential for the convergence of interests amongst parties, in order that interests may be combined in ways that lead to joint gains.[129] Consequently, states seek to avoid non-agreement, and widen 'contract zones' in order to enhance the benefits for all involved parties.[130] Young maintains that while the 'marginal benefits outweigh the marginal costs,' actors will 'deliberately engage in cooperative arrangements through bargaining processes.'[131]

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[125] Ibid, 369
[126] Ibid, 200.
[127] Young, "Sugaring Off," 8.
[128] Oran Young, "The Politics of International Regime Formation: Managing Natural Resources and the Environment," *International Organization*, 43.3 (1989): 349-375.
[129] Oran Young, *Global Governance: Drawing Insights from Environmental Experience* (Cambridge, MA: The MIT Press, 1997): 4.
[130] Young, *International Cooperation*, 233.
[131] Ibid, 200.

(iv) The meaning of international cooperation

Since the mid 1980s, international environmental treaties (developed into distinct multilateral regimes comprising complex regulatory instruments) have not only risen in both number and significance, but have also had a major impact on the dynamics of state behaviour. While cooperation is a common mechanism utilised by states in pursuing multilevel international engagement, Young anticipates that due to increasing potential for instances of conflicts of interest between states, coupled with the intensification of demands on the global environment, cooperation will only become more difficult to achieve in the contemporary international system.[132] As a result, international environmental regimes will come under renewed pressure to cope with evolving environmental, legal, political and economic demands.

The role of regime theory in understanding international cooperation

Given that 'regimes and behaviour are inextricably linked,'[133] employing regime theory as an approach, and 'organizing principle' for studying 'recurrent international phenomena'– such as cooperation, is highly useful.[134] From a realist perspective, the inherently anarchic nature of the contemporary international system hinders and limits the capacity of environmental treaty regimes to effectively 'regulate' the behaviour of states,[135] as states prefer to 'exercise ultimate sovereignty over resources under their control,' and place 'selfish national interests' ahead of the overall

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[132] Ibid.

[133] Krasner, "Structural Causes," 185.

[134] Young, *International Cooperation,* 9; Michael Zurn, "The Rise of International Environmental Politics: A Review of Current Research," *World Politics*, 50.4 (1998): 649.

[135] While the Antarctic Treaty is not specifically an environmental regime, to a large extent it encompasses environmental and natural resource management issues through the complementary agreements developed under the Treaty.

collective welfare of the global environment.[136] Cooperation would 'curb' state behaviour, and 'constrain the scope of their domestic and international policies.'[137]

On the other hand, regime theorists note that in spite of these factors, states come together (either in a voluntary capacity, or because significant environmental consequences prompt, or obligate their action) to develop 'collective self regulating mechanisms.'[138] Regime theory provides significant insights into state behaviour in the international sphere, and is therefore a valuable tool with which to examine collective phenomena, such as international cooperation.[139] In the first instance, regime theory assists in specifying the context within which states make choices; second, it facilitates the identification of the main strategies and mechanisms states employ in pursuing cooperative activities; and third, applying regime theory to our analysis assists in the identification of cooperative state behaviour.[140]

How can we explain or account for patterns of institutional cooperation, and to what extent is cooperation a product of conscious efforts on the part of individual actors to pursue their own interests as opposed to de facto consequences of interactive behaviour?[141] As Young observes, while 'states retain substantial powers to resist the influence of treaty based regimes, ' they are simultaneously shaped and influenced by these regimes, and thereby 'modulate and modify their behaviour over a period of time.'[142]

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[136] Sitaraman, *State Participation in International Treaty Regimes,* 60.
[137] Ibid, 44.
[138] Ibid, 60.
[139] DeGarmo, *International Environmental Treaties and State Behavior,* 10.
[140] Ibid.
[141] Young, "Institutional Linkages in International Society," 3-4.
[142] Ibid.

Up to this point, this chapter has examined several key theoretical schools of thought and approaches to international cooperation; questioned some fundamental realist assumptions; and highlighted the relevance of elements of neoliberal institutionalist, and complex interdependence theories as explanatory variables for international cooperation. From this, it is possible to identify sub-themes, or concepts, that are employed in the empirical analysis of the case studies outlined in chapter seven. The following section evaluates these concepts as criteria for testing in the case studies, and considers their utility as analytical tools for conducting empirical research.

From theory to analysis: Identifying and defining analytical criteria

Through consideration of the theoretical literature undertaken in the previous section of this chapter, a number of criteria, or analytical 'filters' have been extracted and adapted from Young's scholarship on international regimes and cooperation, and Keohane and Nye's work on complex interdependence. Forming the basis for the empirical analysis of the case study data, this study categorises these criteria as interests; incentives; interactions, and instituationalisation.[143] These are defined, and explained in more detail in the following section in order to establish their critical relevance to understanding the information provided in the case studies, and to prepare this data for analytical examination in chapter seven.

The first two criteria – interests and incentives, are based upon the premise that the decision of a state to cooperate can be frequently traced back to multiple motivators or drivers. They seek to assist in answering questions in relation to 'why' states engage in international cooperation in the first place.

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[143] See, Young, *International Cooperation*, 27, 170-175; Keohane and Nye, *Power and Interdepdendence*, 99-109.

The other two criteria – interactions and institutionalisation, are based on the premise that following the decision to cooperate, states will develop and pursue strategies to achieve international cooperation. It is important to note that both the factors initiating cooperation, as well as the strategies enabling it, are not always entirely perceptible, and/or may overlap each other at any given time. As a result, they must be 'unravelled' via a 'determined and careful empirical analysis using in depth process tracing methods applied to specific case studies.'[144]

Interests

Employed as an analytical criteria, interests, broadly refers to the goals of actors. In this case, actors are states or nation states operating in the international system. However, it is important to note, that the interests of states are also necessarily infused to a certain extent with the bureaucratic interests of national governments. Young identifies several categories of national interest that are important to consider in regard to understanding cooperation within international treaty regimes – particularly institutional arrangements concerned with the environment. These are broadly classified as political, economic, environmental, and scientific.[145] It is important to note that in relation to international environmental regimes in particular, these categories of interests are not necessarily mutually exclusive, and are often interconnected and interdependent.[146]

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[144] Sitaraman, *State Participation in International Treaty Regimes*, 3.
[145] Young also includes the category 'social interests,' however this is not included in this study. See, Young, *International Cooperation*, 170-176.
[146] As an analytical criterion, *interests* is discussed and explained in reference to specific case study examples in Chapters Four, Five and Six of this thesis (in particular, refer to pages 331-343). *Interests* is also covered in sections of Chapter Two.

(i) Political interests

There are a number of clearly identifiable political interests associated with states engaging in cooperation within international regimes relating to the environment – for example, the maintenance of national sovereignty, participation, and the capacity to achieve and retain positions of influence and credibility within the international political system. Most prominent among these factors is the concept of national sovereignty – or what Bull considers to be the 'constitutive principle' of the current international system.[147] Vicuna notes that while under international law, national sovereignty has long been 'subjugated' regarding the environment; the growth of international cooperation on environmental issues is evidenced by the widening scope of international environmental law.[148] Nevertheless, the maintenance and protection of national sovereignty continues to remain both a pivotal interest and prevalent concern amongst states operating in the international political arena.

According to Young (as well as theorists who adhere to the 'Grotian tradition),'[149] states are actually 'rarefied abstractions,' with state representatives maintaining both international as well as national ties.[150] Rather than an 'analytic assumption,' sovereignty is perceived as a 'behavioural variable' with the capacity to influence the actions and decisions of states.[151] According to this tradition, states pursue a variety of

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[147] Bull, *The Anarchical Society,* 8-9.
[148] Francisco Vicuna, "State responsibility, liability, and remedial measures under international law: New criteria for environmental protection," in *Environmental Change and International Law,* ed. Edith Brown Weiss, 14-158 (Tokyo: United Nations University, 1992).
[149] Claire Cutler, "The Grotian tradition in international relations," *Review of International Studies,* 17.1 (1991): 41-65.
[150] Krasner, "Sructural Causes," 119.
[151] Ibid.

objectives, and are not only concerned with national security or state survival.

It is not so much that sovereignty has become less important to states, but rather that increases in a variety of factors that pose potential threats to the integrity of state sovereignty in the contemporary international environment, are forcing states to undertake more extensive and innovative measures to ensure protection of their sovereignty. Ways and means of mitigating the challenge of potential erosion of state sovereignty is becoming an increasingly important issue factored into states' decisions to engage in international cooperation.

(ii) Economic interests

Broadly, economic interest relates to what benefits the state, and what is in its best interests in terms of the management of resources. However, economic interests as a motivator for cooperation can be perceived as not only an end goal in itself, but also as a means of achieving other important interests – this means that through engaging in cooperative processes and arrangements (such as resource pooling, joint funding initiatives, and collaborative partnerships), states are also in a better position to pursue and protect other key interests – i.e. political, environmental, and scientific.

(iii) Environmental interests

International environmental concern is being identified by an increasing number of scholars as a relevant factor responsible for initiating and driving cooperation between states. In the first instance, this is connected to the fact that environmental issues are becoming institutionalised to a greater extent

in the political systems of states. In part, this is due to rising levels of collective environmental consciousness, indicative of the widespread concern about global environmental problems, and fear of resource scarcity. From an international environmental law perspective, Vicuna notes that environmental concern is 'one interest in which the interests of states and humankind as a whole coincide.'[152] Adding to this, Scovazzi and Treves state that in relation to the environment, cooperation may be considered as an essential element rather than a free choice – as there is a 'duty to act in good faith, in order to achieve an objective of mutual interest to the states directly concerned,' as well as more widely to the entire international community.[153]

States recognise that they can no longer afford to ignore environmental matters. The global environment (and more accurately, the recognised need to conserve, and manage it in an equitable and sustainable manner) currently occupies a higher priority on the political agendas of some states than ever before. As the scope and magnitude of global environmental issues continues to expand, the potential for critical, and pressing environmental factors to impinge on the key national interests of states increases. Consequently, environmental interests have become 'important factors' in shaping the policy-making processes pursued by states.[154]

Nevertheless, with the nature of many environmental concerns so complex and far reaching, the capacity for states to tackle these sorts of problems in isolation is limited. As has been espoused by numerous scholars writing on

[152] Vicuna, "State Responsibility," 158.
[153] Scovazzi and Treves, *World Treaties for the Protection of the Environment*, 27.
[154] Young, *International Cooperation*, 175.

environmental governance, collective environmental problems require collective solutions – and this means cooperation.[155]

(iv) Scientific interests

Broadly, scientific interests can be said to consist of the acquisition of information and knowledge. However, in relation to contemporary international environmental politics, factors such as scientific prestige, credibility, and reputation are also of critical importance, and are closely implicated with international influence and power – particularly in today's globalised climate. Scientific research can also provide a nexus of mutual interest amongst states, and a solid basis upon which to establish cooperative engagement, through enhancing state credibility and influence, thereby enabling states to work towards addressing issues of mutual concern. While scientific interests are not necessarily closely tied to the security concerns of states, they are often strongly linked to issues relating to national presence and sovereignty.

Nevertheless, growing international interest in science (particularly in light of major contemporary environmental concerns such as climate change and biodiversity loss) can, and does provide a significant impetus for collaborative research over a wide spectrum of scientific disciplines, and establishes a foundation upon which to base strong cooperation. Young maintains that 'whatever our preferences may be, most research is stimulated by practical concerns.'[156] The potential for cooperation is further

[155] This is particularly important in the Antarctic environmental sector, where the doctrines of peace and scientific cooperation provide not only a governance basis for all activities taking place within the Antarctic Treaty Area, but also impose constraints on the capacity of participating states to adopt policies based solely on the pursuit of national interests.
[156] Young, *International Cooperation*, 175.

enhanced in the instances where states share similar research interests, needs, or can share research capabilities.

According to Bull, by examining national interests we must focus analytical attention upon the key objectives of a given nation – a crucial element that assists in determining why, and how states decide to cooperate.[157] At a deeper level, it leads to questions relating to how a common sense of interests is derived, and the factors that prompt this to occur. It also prompts us to consider the importance of the role of other elements – such as knowledge, values, and preferences in defining and shaping interests, as well as the motives and methods of cooperation. It is clear that what Axelrod and Keohane refer to as 'mutuality' of interests,[158] and commonalities of goals between states, are influential factors that facilitate the potential of states to realise fundamental incentives that may be achieved through cooperation, and that ultimately, motivate cooperative behaviour.

Incentives

In order for states to realise cooperation as a means of establishing 'mutually beneficial deals,'[159] and reach agreement, they must first experience a combination of one or more *incentives*.[160] Young identifies a number of key

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[157] Bull, *The Anarchical Society*, 63, 163.
[158] Robert Axelrod and Robert O. Keohane, "Achieving Cooperation Under Anarchy," *World Politics*, 38.1 (1985): 227.
[159] Young, *International Governance,* 101.
[160] As an analytical criterion, *incentives* is covered in depth in each of the case studies presented in Chapters Four, Five and Six. For example, in relation to France's decision to collaborate with Italy in the establishment of Concordia Station (Chapter Four); its cooperative engagement with Australia concerning surveillance and enforcement of fisheries laws as well as scientific research in the Southern Ocean (Chapter Five); and France's cooperative actions at the multilateral level within the forum of the ATCM and the CEP (Chapter Six). *Incentives* is also discussed and analysed fully in relation to the case studies in Chapter Seven.

incentives that need to be at play at any one time, in order for states to decide to pursue international cooperation.

(i) Converging expectations

A convergence of mutual expectations amongst the actors, results in 'conventionalized behaviour,' and enables the development of 'procedures inspired by a common purpose.'[161] In order to progress this to a cooperative stage, states must be able to reach a level of agreement on 'the character and value of the subject singled out for regulation.' In short, according to Haas, there needs to be a significant level of 'order and predictability' to proceedings for cooperation to occur.[162]

(ii) Feasible joint gains

Interdependence involves the potential for both joint gains, as well as joint losses.[163] The capacity of states to realise feasible joint gains through cooperation, whilst also accepting the incurrence of some costs in order to achieve more favourable collective outcomes, is a necessary step toward deciding to cooperate. There are instances when 'rational self interested calculation leads actors to abandon independent decision making in favour of joint decision making.'[164] Furthermore, states will seek to establish institutions in the instances where they can envisage the achievement of joint benefits from cooperation.[165]

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[161] Oran Young cited in Krasner, "Structural Causes," 193.
[162] Haas, "Why Collaborate?" 396.
[163] See Young, *International Cooperation*, 3; Keohane and Nye, *Power and Interdependence,* 260.
[164] Krasner, "Structural causes," 195.
[165] Keohane, and Martin, "The Promise of Institutionalist Theory," 42.

According to Haas, the 'definition of joint gains must be based on the goals of the actors and on the calculations (knowledge) that influence the choice of goals.'[166] A complicating factor identified by Haas, is that due to the lack of hierarchy amongst issues under conditions of complex interdependence, 'minds are being changed all the time' in relation to interests, agendas, and the potential for joint gains.[167] Consequently, the capacity to make concrete predictions about cooperative behaviours, and policy outcomes is near impossible. What can be deduced however, are general observations based on an analysis of existing trends in the cooperative behaviour of states through an examination of their key motives and methods.

(iii) The role of reciprocity

Although the concept of reciprocity has most often been applied to game theoretic studies in relation to the study of world politics, in a simplified sense, it can be useful to consider how it contributes to incentives to cooperate. Reciprocity can be considered as an important component in regard to the cooperative engagement of states in the international system, as states are prepared to 'sacrifice short term interests' when they accept reciprocity.[168] Axelrod confirms that those engaged in negotiations may experience motivations to 'practice reciprocity' across a diverse range of contexts, including both 'conflicting and complementary interests,'[169] and international regimes have the capacity to complement the process of reciprocity by 'reinforcing and institutionalizing' it.[170]

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[166] Haas, "Why Collaborate?" 361.
[167] Ibid, 161.
[168] Krasner, "Structural Causes," 114.
[169] Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984), 118.
[170] Axelrod and Keohane, "Achieving Cooperation Under Anarchy," 250.

In order for reciprocity to be achieved, actors must recognise it as an incentive for cooperation – this involves an acceptance that 'cooperation can yield better results than mutual defection' (despite the fact that the 'temptation' to defect may remain).[171] At a more simplified level, reciprocity necessitates not only the sharing of information between states, but also the sharing of the benefits considered to be a result of this exchange. This has a tendency to reduce vulnerability by providing states with an enhanced level of reassurance surrounding their engagement, and ultimately stabilises the path toward cooperation and agreement.

Reciprocity can enable the occurrence of what Krasner terms, 'the friendship transaction' – characterised by an 'element of direct mutual exchange,' that has significant potential to provide 'net benefit' to the actors engaged.[172] In addition to this, when successfully achieved, the practice of reciprocity can reinforce the 'reputation' of states – an important element when states decide to conclude agreements with one another.[173] In relation to this point, Axelrod highlights that governments with good reputations are more likely to be successful in establishing agreements with other states, than those with poor reputations.[174]

Consequently, regimes play an important role in motivating states to cooperate, as they provide the conditions under which states perceive the acquisition of a good reputation to be both more easily achievable and 'desirable.'[175] Jervis states if both Parties pursue 'strategies of reciprocity' in the belief that positive interactions and engagement will be ongoing over

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[171] Ibid, 244.
[172] Krasner, "Structural Causes," 187.
[173] Young, *International Cooperation*, 75.
[174] Axelrod and Keohane, "Achieving Cooperation Under Anarchy," 250.
[175] Ibid.

considerable time periods, then this raises the chances of states entering into cooperative arrangements in the first place.[176]

(iv) The role of knowledge

In analysing cooperation within international regimes, Haas notes that 'knowledge creates a basis for cooperation' by improving the probability of 'convergent state behaviour.'[177] It does so, by highlighting 'complex interconnections,' and by establishing a 'common ground' upon which states can implement 'mechanical' approaches and strategies that provide the practical instruments for cooperative engagement.[178] Oye notes that knowledge and information 'generated' by international regimes has the potential to influence states' perception of their own national interests. Adding to this, Haas emphasises an important outcome of this process in the development of state 'learning' – whereby the gaining of knowledge and experience can not only limit uncertainty about compliance, but also bring about 'redefinitions of past interests in the service of joint gains.'[179]

Alterations to, or increases in the knowledge available to states, can initiate 'evolutionary change,' to rules and procedures, which thereby influences the cooperative behaviour of states.[180] Furthermore, in the cases where states have access to more, or new information, the potential to pursue 'policies that more nearly maximize utility,' is enhanced.[181] Hence, states must

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[176] Jervis, "Realism, Neoliberalism, and Cooperation," 52.
[177] Haas, "Why Collaborate?" 368.
[178] Ibid.
[179] Ibid, 390; Helmut Breitmeier, Arild Underdal, and Oran Young, "The Effectiveness of International Environmental Regimes: Comparing and Contrasting Findings from Quantitative Research," *International Studies Review*, 13 (2011): 584.
[180] Ernst B. Haas, "When Knowledge is Power." 237-278.
[181] Keohane and Martin, "The Promise of Institutionalist Theory," 44.

cumulatively gain awareness of the knowledge surrounding the relevant issue areas (as well as the issue areas themselves), and have articulated and defined interests and goals, in order to be able to realise joint gains.

States can, and do, change and redefine their interests and goals in order to be able to realise joint gains that can be achieved through cooperation. Nevertheless, if joint action comprises greater opportunity costs than individual action, cooperation will not occur.[182] Haas adds that while the existence of knowledge (and awareness of it) 'sensitizes' actors to both the costs and benefits of cooperation by 'sharpening' their awareness to achieve gains, it only becomes a politically determinant factor up to the point that it 'shows up as an ingredient in the formulation of national demands for altering the existing pattern of interdependence.'[183] Despite the benefits of knowledge in assisting to shape interests, goals, and decision-making, for it to have an independent impact on international cooperation, knowledge must be recognised, accepted, and incorporated by the actors involved.

(v) Limiting the costs of cooperation

Interdependence does not automatically equal mutual benefit. Interdependent relationships usually involve the incursion of some transaction costs, however, these costs can be limited through pursuing cooperative processes. For example, the costs of cooperation will be lower in situations where there are well-established communication channels between states, and where a significant level of formal, or informal interaction and exchange takes place between states – the chances of this occurring are

[182] Keohane, "The Demand for International Regimes;" Oran Young, Regime Dynamics: the rise and fall of international regimes," *International Organization*, 36.2 (1982): 277-297.
[183] Haas, "Why Collaborate?" 392.

greater where the systems in which states operate are characterised by conditions of complex interdependence.[184]

The possibility of achieving what Jervis refers to as 'potential common gains,' is fundamentally important in influencing a state's decision to deflect from purely self-interested policies.[185] This is particularly the case with issues 'in which large mutual benefits are believed to be possible.'[186] Here, Jervis draws specific attention to environmental protection as an area in which states may be more inclined to realise the mutual benefits of cooperation, as opposed to issues relating to territory or resources (areas in which self-interested behaviour is more likely to come to the fore, play a more dominant role in shaping decision making behaviour, and potentially constrain the capacity of states to pursue cooperative policies).[187]

(vi) Zones of agreement

In order to achieve cooperation, states must be able to envisage a zone of agreement.[188] In these situations, the bargaining positions of states have the potential to 'converge on the basis of consensual goals (or interests), and when the concessions that are exchanged by parties are perceived as instrumental towards the realization of joint gains.'[189] According to Jervis, states seek to avoid 'suboptimal outcomes,' by recognising that there is significant potential for gains achieved 'through the more artful management of policies,' and by then pursuing 'mutually beneficial arrangements.'[190]

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[184] Robert Keohane cited in Krasner, "Structural Causes," 196.
[185] Jervis, "Realism, Neoliberalism, and Cooperation," 45.
[186] Ibid, 45-46.
[187] Ibid.
[188] Haas, "Why Collaborate?" 393.
[189] Ibid.
[190] Jervis, "Realism, Neoliberalism, and Cooperation," 48.

(vii) Perceptions and preferences

The importance of taking into account the existence of different perceptions amongst states cannot be underestimated. Perceptions are fundamentally linked to beliefs, and play an important role in shaping preferences, and therefore the interests of states. Despite what seems to be an obvious necessity to factor in the perceptions of other actors when involved in some form of interaction or exchange, state representatives frequently fail to 'appreciate how their own actions will affect others, and how they will be interpreted by others.'[191] Such lapses in awareness and judgement can lead to significant misunderstandings and miscalculations regarding the interests and intentions of other actors.

According to Jervis, identifying 'distinctions between preferences over strategies' – a theory that maintains that actors may change their preferences for a variety of reasons (for example, on the basis of new information), rather than pursuing certain strategies in order to reach their goals, increases the chances of cooperation by limiting transaction costs that may be associated with developing and maintaining agreements.[192] Cooperation is more likely to occur when actors are able to 'adjust their behaviour to the actual anticipated preferences of others.' Furthermore, relationships between actors that continue to exist over time, will also tend to 'engender stable expectations about behaviour.'[193]

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[191] Axelrod and Keohane, "Achieving Cooperation Under Anarchy," 247.
[192] Robert Powell, "Anarchy in International Relations Theory: The Neorealist-Neoliberal Debate," *International Organization*, 48.2 (1992): 318-321.
[193] Axelrod and Keohane, "Achieving Cooperation Under Anarchy," 226.

Despite the awareness of certain costs, states do 'bind themselves to mutually advantageous' courses of action in the instances where they perceive that the overall gains to be had, outweigh the costs of non-engagement.[194] Jervis adds that increased understanding and knowledge about their goals, and the goals of their foreign counterparts, as well as the existence of reciprocity, allows for greater instances of cooperation to occur.[195] If states can agree on the benefits to be gained from cooperating, the potential for disagreement or conflict reduces, and the potential for cooperation is enhanced. Needing to collectively address issue areas of common concern forces states to engage, and to 'examine the terms of their mutual dependence.'[196]

As has been noted in preceding sections of this chapter, factors such as the establishment, and evolution of international regimes, and changes in the importance of interests and incentives, have the capacity to influence the nature and extent of cooperative outcomes in the international political sphere in terms of identifying why states decide to cooperate.

In considering the other broad research driver raised in this study – through what means and strategies do states engage in international cooperation under conditions of complex interdependence, it is important to consider the remaining two analytical criteria – *interactions* and *institutionalisation.*

[194] Oye, "Explaining Cooperation Under Anarchy," 1.
[195] Jervis, "Realism, Neoliberalism, and Cooperation," 57.
[196] Haas, "Why Collaborate?" 363.

Interactions

Employed as an analytical criteria in this study, *interactions* relates to the setting of state agendas. In this regard, it considers the role and significance of agenda setting and formation, as well as issue linkage, as 'instruments' capable of influencing, and shaping the cooperative behaviour of states at the international level. *Interactions* also very briefly touches on the effects of domestic politics regarding the dynamics of cooperation.[197]

(i) Agenda setting

The lack of definitive hierarchies across issue areas indicates that considering the political processes surrounding agenda setting is increasingly important. Keohane and Nye broadly define agenda setting as 'how issues come to receive sustained attention by high officials.'[198] As issues (and also the actors dealing with those issues) become increasingly complex, and 'linked' at the international level, and as the use of traditional methods of force continues to become more limited, the 'line between domestic policy and foreign policy becomes blurred.'[199]

As conditions of complex interdependence persist and intensify, agenda setting (and the extent of the role it plays in shaping state behaviour) becomes more difficult to identify clearly, and more challenging to separate from other political factors that occur simultaneously. Furthermore, as

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[197] As an analytical criterion, *interactions* is covered in the case study Chapters (Four, Five and Six), and is of particular relevance to, and importance in explaining France's engagement with two of its important bilateral partners – Italy (Chapter Four), and Australia (Chapter Five). *Interactions* is also discussed and analysed fully in Chapter Seven (see pages 356-364).

[198] Keohane and Nye, *Power and Interdependence,* 28.

[199] Ibid.

political interdependencies between states gain complexity – initiating effects on both domestic and international agendas, the 'sensitivity' surrounding interaction rises.[200] Added to this, is the fact that the agendas related to an issue, or set of issues may change, due to the development of linkages to other issues based upon power redistributions among actors and issue areas.

The existence of multiple channels of contact among societies further increases the potential for decreasing the distinction between domestic and foreign policies. Consequently, the 'attitudes and policy strands' of domestic actors – for example, government departments or agencies, are likely to be influenced by interaction with their foreign counterparts. This limits the ability for states to assess accurately the 'manipulation of interdependence,'[201] or consistently pursue a coherent 'strategy of linkage.'[202] State representatives must therefore pursue more complex processes regarding the setting and controlling of agendas. The capacity to affect policy processes is also shaped by the nature of relationships formed through communication channels existing between and across government departments at national, as well as international levels. In order to enhance the potential to realise mutual policy objectives, departments or agencies may attempt to 'bring actors from other governments into their own decision making processes as allies.'[203]

As the current global political system is comprised of 'multiple issues imperfectly linked,' and includes the engagement of coalitions of trans-national and trans-governmental actors, there is significant potential for

[200] Ibid, 10, 235.
[201] Ibid, 103.
[202] Ibid, 26.
[203] Ibid, 29.

international institutions to play a major role in political bargaining.[204] By defining, prioritising, and grouping issues, contributing to shaping national agendas, as well as influencing the interactive behaviour of institutional arrangements and mechanisms within governments, institutions 'help set the international agenda,' and also act as 'catalysts for coalition formation.'[205] Within institutional forums, relevant actors (such as governmental and non-governmental officials, and other experts) have the opportunity to discuss, debate, and form interest based coalitions based upon mutually agreed objectives. As a result, while existing channels of contact are strengthened, new ones are also formed that often lead to more formalised and explicit arrangements.

(ii) Agenda formation and the role of issue-linkage

The nature of issues (and issue-linkage) means that as a component of the analytical criteria for this study, it is relevant to both the *interactions* criteria (in relation to its capacity to shape agendas and influence agenda setting), as well as to the *institutionalisation* criteria (in relation to the role it plays in bargaining). As a result, certain aspects of issue linkage are considered within both criteria.

According to Haas, 'issues are separate items that appear on the agenda of negotiators.'[206] The very nature of issues means that the majority of the time, they are linked to other issues in some way, with connections across issues becoming increasingly important when issues are identifiably linked.[207] As a result of substantial rises in sensitivities between states in the current

[204] Ibid, 35.
[205] Ibid, 30.
[206] Haas, "Why Collaborate?" 364.
[207] Axelrod and Keohane, "Achieving Cooperation Under Anarchy," 239.

international system, linkage strategies (and more importantly the role they play in agenda setting and politicisation processes) are increasingly important. Keohane and Nye note that while the contemporary global political system appears to be a 'seamless web,' linkage strategies employed by states represent deliberate attempts to 'stitch seams together,' and play a significant role in determining the overall 'shape of the fabric.'[208]

By linking the policies of one state on some issues, with another state's policies on other issues, places those states in a better overall position to fill policy gaps, and address issues areas in which they demonstrate a weaker, or more limited knowledge or experience. As the utility of force and other traditional methods of control decline, and as issues gain more 'equal importance,' power distribution within each issue area becomes more important, resulting in 'outcomes of political bargaining' varying to a greater extent by individual issue areas.[209]

While not all issue-linkage results in cooperation or agreement all of the time, states that factor knowledge into issue-linkage, cannot according to Haas, 'act contrary to their national interests.'[210] This is due to the fact that states possess the capacity to redefine interests in light of 'newly understood causes of unwanted effects,' and as a result, may pursue different strategies to achieve their goals.[211]

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[208] Keohane and Nye, *Power and Interdependence,* 27.
[209] Ibid, 35.
[210] Haas, "Why Collaborate?" 390.
[211] Ibid.

Institutionalisation

Applied to this study, *institutionalisation* refers to what Keohane and Nye call 'instruments of state policy.'[212] Under conditions of complex interdependence, states have turned to less traditional approaches regarding the implementation of strategies aimed at realising their goals, and the securing of key interests.[213] In terms of the choice of instruments of state policy employed, 'power resources specific to issue areas will be most relevant,' with decision-making 'significantly influenced and determined by changes in the distribution of power resources within issue areas, as well as by a variety of processes.'[214] Accordingly, the more powerful or influential states in the international system will attempt to utilise 'asymmetrical interdependence,' groups of issues, issue-linkage, and the forum of international institutions to attain power. These states will also attempt to 'manipulate interdependence' within the context of international institutions, as issue areas, and the goals of actors engaged become both more challenging to define and control.[215]

Keohane and Martin note that a failure to realise the potential benefits of cooperation may occur if states do not establish coordinating mechanisms. In complex international multilateral situations, institutionalised arrangements can provide 'constructed focal points' that facilitate cooperative engagement amongst a wider group of actors.[216] For example, an

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[212] Keohane and Nye, *Power and Interdependence,* 103.
[213] As an analytical criterion, *institutionalisation* is covered in depth in the case study chapters – particularly Chapter Six that provides specific examples of how *institutionalisation* applies to France's multilateral engagement in the ATCM and the CEP. *Institutionalisation* is also discussed in full in Chapter Seven (particularly pages 365-378).
[214] Based upon Keohane and Nye's writing in the first edition of *Power and Interdependence*, (1977). See, *Power and Interdependence,* Ed. 3 (2001), 196.
[215] Ibid, 30.
[216] Keohane and Martin, "The Promise of Institutionalist Theory," 45.

institutional agreement between one or more states facilitates cooperation by mutualising common interests, synthesising expectations, and setting parameters of engagement. In addition to this, such arrangements may also provide assurance mechanisms that demonstrate to states the equitable division of gains, thereby reducing 'fears of unequal gains from cooperation.'[217]

A number of liberal scholars and environmental law experts, emphasise that unlike in the realm of international security or economic issues, the use of strategies based upon military coercion, are generally not employed by states in their attempts to resolve global environmental issues. Such strategies are perceived as neither useful, nor appropriate.[218] More frequently employed methods include, negotiation, and various types of bargaining processes (most often through institutionalised forums), that intend to result in bilateral and multilateral arrangements.

(i) Issue-linkage as an instrument of state policy

As issue areas tend to be less congruent, and therefore increasingly difficult to link under conditions of complex interdependence, linkage strategies provide states with 'critical strategic choices' in terms of policy making.[219] Based on the types of issues to emerge within a given political institution or regime, states must decide if, when and how to link issues, and in doing so, which issues can be considered together, and which ones must be considered separately.

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[217] Ibid.
[218] Sitaraman, *State Participation in International Treaty Regimes*, 2.
[219] See, Oye, "Explaining Cooperation Under Anarchy;" Axelrod and Keohane, "Achieving Cooperation Under Anarchy."

While strictly speaking, issue-linkage most often relates to the attempts of states to achieve bargaining advantages by 'making one's own behaviour on a given issue contingent on other's actions toward other issues,'[220] in its simplest form, issue-linkage can (for want of a better phrase) be conceived as a less self-interested strategy. Rather, it can be a mutually beneficial mechanism available to, and utilised by all actors engaged in negotiations, and can assist in paving the way to agreements that may have otherwise been exceedingly difficult, or impossible to reach.

Furthermore, due to the fact that resources, knowledge and expertise vary across actors in relation to different issues, actors identify significant value in maximising, and capitalising on each other's strengths, whilst also filling each other's capacity gaps or weaknesses – this can loosely be referred to as 'bargaining linkage.' Actors may also realise that these processes enhance the potential to expand cooperation involving other issue areas during negotiations. Axelrod and Keohane also identify 'contextual' issue linkage – a concept that is based upon bargaining that occurs within the context of a longer-term relationship between one or more states, and in which the nature of this relationship affects the actual bargaining process.[221] Jervis adds that 'the incentives to bargain are harder,' in the instances when an agreement is intended for an extended period of time.[222]

Haas outlines the fundamental importance of 'substantive linkage' of issues in regard to explaining international cooperative behaviour. This type of issue linkage is dependent upon 'learning that the national interest can be redefined or broadened, and that international collaboration is required for

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[220] Ibid, 239.
[221] Ibid, 241.
[222] James D. Fearon, "Bargaining, Enforcement and International Cooperation," *International Organization*, 52. 2 (1998): 269-305.

the realization of national goals.'[223] Importantly, the existence of joint gains (as well as the awareness of actors of the potential for joint gains) is necessary for knowledge to 'legitimate collaborative behaviour.'[224] In this regard, 'substantive linkage' is often perceived to be more 'rational' than other forms of issue linkage, as there is less potential for uncertainty, changes to agreed upon goals, and alterations to the methods employed for goal attainment. In short, other forms of issue linkage are more likely to result in sub-optimal outcomes for the actors involved in negotiations.

(ii) Negotiation and bargaining strategies as instruments of state policy

It is necessary to consider issue-linkage in terms of how it affects how actors decide, prioritise, and pursue their interests and goals – factors which in turn influence the types of cooperative strategies they choose to employ. According to Haas, 'issue linkage refers to negotiating behaviour,' and this is strongly implicated with the assumption that actors are 'motivated by a conscious calculation of advantage' of some sort.[225]

Throughout negotiations, states may or may not agree on common goals and outcomes – the articulation and definition of which may take place during the negotiating process. Nevertheless, the ordering of goals must be preceded by the mutual acceptance of common goals by all states involved in negotiations. Evidently, this is easier to achieve in the case of bilateral as opposed to multilateral negotiations due to the number of actors (and therefore the number of interests, preferences and goals) involved.[226]

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[223] Ibid.
[224] Haas, "Why Collaborate?"
[225] Ibid, 377.
[226] Oye, "Explaining Cooperation," 4.

Oye notes that the 'prospects for cooperation diminish as the number of players increases,' due to a rise in transaction and information costs, and 'mitigates against identification and realization of common interests.'[227] It is more difficult to identify the key actors, to define interests and goals, to anticipate the behaviour and decisions of other actors, and to come to mutually agreed upon understandings of issue areas across a wide breadth of diverse international actors. Oye highlights that the significant complexity of engaging a number of actors often 'operates against multilateral cooperation.'[228]

States may also need to negotiate deals, engage in bargaining tactics, and consider which issues, and on what basis, they are prepared to either compromise, or remain steadfast in their national positions. For example, a state may need to decide on whether or not to enter into a formal, legally binding agreement with another state, rather than an informal, *ad hoc* arrangement. Throughout negotiations, there must be an understanding among actors, and a demonstrated awareness of, or sensitivity to the 'hopes and fears' of the other actors involved.[229]

As a strategy, the focus of interest based bargaining is on developing mutually beneficial arrangements based upon the interests of each party. In employing a more complex strategy, 'integrative bargaining,'[230] states are driven primarily by a desire to 'achieve an outcome as favourable to their own interests as possible,' and in doing so, will endeavour to avoid

[227] Haas, "Why Collaborate?" 394.
[228] Ibid, 19.
[229] Ibid.
[230] Young, *International Cooperation,* 233.

situations of non-agreement, and to widen 'contact zones,' thereby enhancing the potential for benefit to all parties involved.[231]

Nevertheless, while different bargaining strategies are commonly employed in negotiations, in situations were states perceive their interests to overlap, or co-inside, states 'seek to advance their interests not by negotiating or bargaining with each other, but by cooperating to maximise their common interest.' The principal concern of states involves 'finding the most efficient means of achieving a given end,' rather than reconciling differences or bargaining.[232] Under conditions of complex interdependence, this often leads to the development of agreements that are implemented by states through bilateral and multilateral negotiation in order to address issue areas.

It is also important to factor in the role of knowledge, interests, and the concept of reciprocity and preferences, in regard to how states approach this process. According to Haas, 'issue specific' negotiations most often occur when an 'accepted body of knowledge' exists on a given topic.[233] As a result, there is more certainty for actors engaged in negotiations regarding the potential costs and benefits of cooperation, and the efficacy of reaching mutually desired outcomes. Where patterns of behaviour and interaction persist (although most often initiated by national interests), there is an increased potential for states to develop shared expectations based upon a mutuality of interests. According to Young, when brought together, these two factors become 'infused with normative significance.'[234]

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[231] Ibid.
[232] Bull, *The Anarchical Society*, 170.
[233] Haas, "Why Collaborate?" 371.
[234] Oran Young cited in Krasner, "Structural Causes," 202.

Furthermore, the more narrowly defined the scope of an issue area, the more likely are actors assured that the outcomes are acceptable to their interests.[235] Negotiations centred upon specific issue areas, 'tend to favour the coalition of states who have long had an interest in the issue and who dominate the resource.'[236] As a result, the success of cooperative negotiations depends upon the 'congruence of interests as much as on changes in consensual knowledge.'[237] This is why the establishment of long standing relationships between states enhances the chances of cooperation – states feel more secure, and consider their interests to be more likely met in the instances where positive, and successful engagement with other actors has been cultivated for some time. Confirming this, Oye maintains that 'the prospect of continuing interaction affects the likelihood of cooperation,' as states envisage their efforts of engagement as a worthwhile investment.[238]

(iii) Institutions as instruments of state policy

In order to comprehend fully the interplay between institutional arrangements, interests, policies and cooperation, Jervis notes that it is necessary to identify three different types of institutions – institutions as binding and self-binding standard tools (for example, binding commitments between states in the form of agreements); institutions as innovative tools (for example, those that increase understanding, and knowledge, and allow states to cooperate more); and institutions as 'causes of changes in preferences over outcomes' (whereby in anticipating outcomes, states can alter their interests and their behaviour accordingly).[239] This third type, has

[235] Haas, "Why Collaborate?" 371.
[236] Oran Young cited in Krasner, "Structural causes," 202.
[237] Ibid.
[238] Oye, "Explaining Cooperation," 3.
[239] Jervis, "Realism, Neoliberalism, and Cooperation," 59.

the potential to take on a 'life' of its own – not only through the capacity of the institution to bind states, but also in its capacity to change 'beliefs about what is possible and desirable.'[240] As a result, institutions can potentially shape, and influence the interests of states as much as they reflect them.

Nevertheless, regardless of the type of institutional arrangement, institutions can in themselves, be utilised as an instrument of state policy.[241] Given that neoliberal theorists maintain that states are not all the same, preferences are often seen as the product of internal processes. Hence, the potential for institutions to alter the preferences of states is most likely to occur through domestic channels. Jervis highlights that 'we have underestimated the importance of these dynamic effects of institutions.'[242] While both 'standard,' as well as 'innovative' types of institutions involving strategies such as negotiation and bargaining, may account for some degree of cooperation, Jervis maintains that they must also be necessarily 'accompanied by deeper changes in what the actors want, and how they conceive their interests.'[243] Institutions also have strong potential to facilitate cooperation by making states 'more aware of their interests.[244] According to neoliberal theory, there is more potential for cooperation to occur in the instances where states select preferences over strategies, and that institutions are in fact 'efficacious instruments for this purpose.'[245]

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[240] Ibid.
[241] Keohane and Nye, *Power and Interdependence,* 107.
[242] Jervis, "Realism, Neoliberalism, and Cooperation," 59.
[243] Ibid, 61.
[244] David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff (eds.), "Introduction and Overview," in *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice,* 1-47 (Cambridge: the MIT Press, 1998): 11.
[245] Ibid, 62.

Nevertheless, despite 'binding' mechanisms utilised by states on both themselves as well as others, the instances in which states 'consciously seek to alter their values and preferences over outcomes,' are rare.[246] In this regard, Jervis draws attention to the importance of considering the 'unintended' consequences, and effects brought about by institutions as instruments, that contribute to shaping the cooperative behaviour of states – incremental movement towards cooperative engagement may impinge on key national interests of states – for example, by imposing sovereignty constraints, as well as necessitating alterations to interests, policies, preferences, and ultimately outcomes.[247]

(iv) The effect of domestic policy on institutionalisation

It is important to note that international cooperative engagement is no longer confined to traditional sources of power and control – such as foreign ministries. Haas notes that the vast majority of contemporary government agencies have 'a stake in some aspect of international relations,' pursuing engagement with their foreign counterparts, and at times, completely bypassing contact with their foreign ministry.[248] Consequently, 'the channels of international communication are more numerous, decentralized, and diverse than ever.'[249]

[246] Jervis, "Realism, Neoliberalism, and Cooperation," 62.
[247] Ibid.
[248] Haas, "Why Collaborate?" 357.
[249] Ibid.

Conclusion

Section one of this chapter, outlined the key existing theoretical literature on international cooperation and regimes. Particular focus was granted to considering elements of the debate between realist and liberal institutionalist theories on the role of regimes, and the incentives and strategies of cooperation between states operating at the international level. In weighing up the merits and weaknesses of these theoretical approaches in regard to their capacity to explain motives and strategies of international cooperation within treaty regimes, regime theory (and specifically complex interdependence theory) was identified and selected as the most suitable theoretical foundation upon which to base the analytical framework of this study.

As espoused by Keohane and Nye, 'sophisticated versions' of liberal theory such as complex interdependence, have a strengthened capacity to consider the dynamics of relationships and interconnections between states, and how interactions between international regimes and state domestic politics can 'transform' the way in which states define their interests, engage in, and cooperate within the international system.[250] Although international cooperation necessarily involves the pursuit of national interests (indicating the presence of some threads of realism), this is however mitigated by the existence of over arching conditions of complex interdependence.

Taking this theoretical discussion into account, section two elaborates on the key concepts of complex interdependence and regime theory. This involved distilling and infusing the main concepts into an analytical framework for

[250] Keohane and Nye, *Power and Interdependence,* xiii

this study – specifically, considering the major elements of international cooperation (including state incentives and strategies for cooperative behaviour), as well as the role and utility of international regimes in facilitating cooperation. Following this, section three establishes and defines the key analytical criteria, or filters necessary for the examination of case study data.

As stated by Haas, 'the hallmark of complex interdependence is uncertainty.'[251] This uncertainty is fundamentally characterised by a multiplicity of interests and goals positioned at various levels on both national and international agendas – goals that cannot be necessarily 'ordered into a hierarchy of importance or salience equally acceptable to all.'[252] This is accompanied by the fact that actors may not always agree on the means or methods of goal attainment, even if there is consensus on desired outcomes. States will try to limit resultant uncertainty, and control, or at least regulate 'asymmetrical interdependence.'[253] Throughout this process, issue linkage plays an important role in assisting states ascertain knowledge in a given issue area, which in turn contributes to the shaping of definitive goals and agenda setting.

Conditions of complex interdependence proliferate in today's international political system, with an abundance of different issues continuously bombarding the contemporary international environmental policy agenda. As awareness and knowledge of collective problems continues to grow, interconnections and interdependencies between states are much more likely to increase. States employ a variety of mechanisms – for example, negotiation

[251] Haas, "Why Collaborate?" 377.
[252] Ibid, 378.
[253] Ibid, 363.

processes, different bargaining tactics, and issue linkage, that facilitate the development of cooperative strategies, and coalitions between states with common interests, as a means of mitigating the realisation of sub-optimal gains. These factors – when coupled with 'increasingly consensual knowledge,' heightens the potential for cooperative agreement and the establishment of institutionalised arrangements between states.[254]

Keohane and Martin suggest that 'international cooperation seems to be the only way in which international environmental problems may be solved.'[255] Scovazzi and Treves point out that the considerable number of international environmental treaties concluded over the last two decades, clearly indicates 'the ever increasing awareness of states of the importance of improving environmental protection through cooperation.'[256] As the international system is forced to accommodate a greater number of international regimes, and as it becomes increasingly necessary for states to engage in cooperative action, it is essential to 'comprehend the dynamics of collective action at the international level.'[257]

This chapter has outlined that states decide to 'invest' in international institutions for a number of key reasons,[258] and that by reducing potential 'fears of engagement' (such as the occurrence of unequal gains, or losses that may be experienced by states through the process of cooperating), and by enhancing the potential for mutually beneficial deals, institutions are

[254] Ibid.
[255] Keohane and Martin, "The Promise of Institutionalist Theory," 41.
[256] Scovazzi and Treves, "Introduction," 28.
[257] Ibid.
[258] Keohane and Martin, "The Promise of Institutionalist Theory," 41.

fundamentally important 'cooperative devices' in the contemporary international political system.[259]

The following chapter provides a general overview of the nature and extent of France's involvement in the ATS. A brief historical snapshot of France's activities in the Antarctic region (up to and including the signing of the Antarctic Treaty) is followed by commentary of France's role and participation within the key institutions that comprise the ATS.

[259] Ibid, 45.

2. France and the Antarctic Treaty System

France is a key player in Antarctic affairs. Since the entry into force of the Antarctic Treaty in 1961, France has remained a committed and active participant in the international instruments that constitute the Antarctic Treaty System (ATS). This chapter analyses the politics of France's involvement in the ATS by examining the nature and extent of its role in several of these instruments, and by paying close consideration to French leadership – particularly in relation to examining instances of cooperation and collaboration.

The purpose of this chapter is to provide a contextual background to France's participation in the ATS in order to identify its primary interests, and to ascertain discernable patterns of French cooperation. With this in mind, the first section of this chapter provides a general overview of France's Antarctic involvement. This includes a brief historical account, before consideration is turned to France's cooperative role in several of the key ATS institutions.

France has an extensive record of involvement in the Antarctic region, and occupies a privileged, and well-affirmed position in the Antarctic and Southern Ocean region.[1] It is a claimant to continental Antarctic territory, possesses sub-Antarctic islands, and is an original signatory to the 1959 Antarctic Treaty. As an influential, and active member and participant of the major ATS institutions, France plays a pivotal role in Antarctic Treaty Consultative Meetings (ATCMs), the CCAMLR Commission and Scientific

[1] Christian Gaudin, "French Polar Research, Report on France's Position with Regard to the International Issues Surrounding Polar Research: The case of Antarctica," *OPESCT*, 230 (Paris: Parliamentary Office for the Evaluation of Scientific and Technologic Choices, 2006-2007), 91.

Committee Meetings, and the Committee for Environmental Protection (CEP) Meetings.

France and Antarctica - a historical perspective

The French have historically demonstrated a strong leadership role in Antarctica, with France's legacy in the region extending back as far as the 1700s, during what is referred to as the age of discovery.[2] Throughout this period, several European nations were preoccupied with discovering the enigmatic southern continent, or *Terra Australis Incognita* – the Unknown Southern Land.[3] The discoveries and territorial claims made by early French explorers ensured that France dominated the first phase of eighteenth century Antarctic exploration.[4] Jean Baptiste Charles Bouvet de Lozier claimed Bouvet Island in 1739,[5] while Marc-Joseph Marion du Fresne discovered and claimed Marion and Prince Edward Islands, as well as the *Îles Crozet* in 1772, and Yves-Joseph Kerguelen de Trémarec discovered and took possession of the *Îles Kerguelen* in the same year.[6] Two decades later in

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[2] Alan Gurney, *The Race to the White Continent* (New York: W.W. Norton and Company Inc., 2000), 35; Marthe Melguen, "French Voyages of Exploration and Science in the Age of the Enlightenment: An Ocean of Discovery Throughout the Pacific Ocean," in *Voyages of Discovery: Parting the Seas of Information Technology*, proceedings of the 30th Annual Conference of the International Association of Aquatic and Marine Science Libraries and Information Centers, ed. J.W. Markham and A.L. Duda, 31-59 (Fort Pierce, FL: IAMSLIC, 2005): 32. See also, Alfred Van der Essen, "The Origin of the Antarctic Treaty System," in *International Law for Antarctica,* ed. Francesco Francioni and Tullio Scovazzi, 17-29 (The Hague: Kluwer Law International, 1996).

[3] Carl Murray, "Mapping Terra Incognita," *Polar Record*, 41.217 (2005): 103.

[4] Gurney, *The Race to the White Continent*, 35.

[5] In 1739, Bouvet de Lozier, commissioned by the *Compagnie des Indes Orientales* (the French East India Company), discovered what he believed to be a portion of the Antarctic mainland at 54°South. It was in fact not part of the mainland, but an island, now known as Bouvet Island. See, Maria Pia Casarini, "Activities in Antarctica Before the Conclusion of the Antarctic Treaty," in *International Law for Antarctica*, ed. Francesco Francioni and Tullio Scovazzi, 627-681 (The Hague: Kluwer Law International, 1996).

[6] Groups of uninhabited islands located in the Southern Ocean. Robert Aldrich, *Greater France – A History of French Overseas Expansion* (Hampshire: Palgrave, 1996), 84-85.

1792, Joseph-Antoine Bruni d'Entrecasteaux, claimed New Amsterdam and Saint Paul Islands on behalf of France, despite the fact that these islands had already been discovered by Spanish and Dutch explorers in the sixteenth and seventeenth centuries respectively.

The establishment of the British Royal Society in 1662, and the founding of the *Academie des Sciences* in 1666 – almost a century prior to these expeditions, had also contributed to burgeoning scientific interest in the Antarctic and Southern Ocean region.[7] Additionally, widespread publication of Charles de Brosses's compilation of all the well known voyages to the South seas in 1756 that encouraged further exploration of this remote region of the world, ignited French interest in the Antarctic and Southern Ocean region.[8]

In a similar manner to that of other European countries at the time, France set out for the South Seas with a variety of objectives – in addition to advancing scientific knowledge, the French hoped to secure South Pacific territory for strategic, political and commercial benefit, such as trade, colonisation, and the establishment of a penal colony. With imperialism constituting a dominant force in European politics throughout the eighteenth and nineteenth centuries, a desire for colonial expansion significantly contributed to France's increasing interest in the Antarctic and Southern Ocean region. To a considerable extent, colonial intentions determined the strategic and economic importance of Antarctica to French national interests.

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[7] See G.E. Fogg, *A History of Antarctic Science* (Cambridge: Cambridge University Press, 1992): 81; E. Faure-Fremiet, and E. Fauré-Fremiet, "Les origines de l'academie des sciences de Paris," *Notes and Records of the Royal Society*, 21.1 (London, 1966): 19.
[8] Tom Ryan, "Le Président des Terres Australes: Charles de Brosses and the French Enlightenent Beginnings of Oceanic Anthropology," *The Journal of Pacific History*, 37.2 (2002): 157.

A need to control newly found sources of raw material resources, the prospect of new foreign markets for manufactured products, foreign capital investment opportunities, the exploitation of cheap labour, and factors relating to national security and diplomacy, were all significant imperialist ambitions evident in the major European colonial empires of the time. As well as being a clear indication of status and power, colonial expansion was considered vitally important in excluding competing foreign powers from regions perceived as significantly important to existing national interests. Consequently, by the late nineteenth century, France's extensive colonial empire was second only to that of Britain's in terms of both size and wealth.[9]

Maintaining a strong presence in the South Pacific and Southern Ocean regions enabled France to demonstrate power to its traditional enemy, and fellow colonial rival at the time – Britain.[10] The claiming of South Pacific territories in the 1800s, prompted France to secure naval routes and nearby territory in the Southern Ocean region – crucially, the Antarctic Peninsula borders the Drake Passage, a significant strategic and commercial naval route at the confluence of the Pacific, South Atlantic and Southern Oceans.

At this time, voyages of exploration and discovery began to reflect national policies to a greater extent. The nineteenth century witnessed a surge in international Antarctic interest, with many European expeditions undertaking voyages in an attempt to locate the South magnetic pole. Between 1837 and 1840, Jules Sébastien Cesar Dumont d'Urville, commissioned by King Louis Philippe, led France in the international race to locate the South magnetic pole, seeking also to extend France's influence in

[9] The rise of the French colonial empire commenced in the eighteenth century.
[10] Stephen Henningham, *France and the South Pacific: A Contemporary History* (Sydney: Allen and Unwin Pty Ltd., 1992), 2.

the region. During this voyage, d'Urville charted and claimed several islands in the name of France – Louis Philippe Land, Joinville Land and Rosamel Island, as well as the Adelie Coast, and *Pointe Géologie*.[11]

During the decade of the 1890s, the commencement of modern whaling heightened the strategic and commercial importance of the Antarctic region. As international competition to exploit declining whale populations increased, France recognised another important reason to assert its presence, and secure interests in the Antarctic and Southern Ocean region. With the importance of Antarctica increasingly perceived in both economic and strategic terms, it was imperative to France's national interests to expand its sphere of influence as far south as the Antarctic.[12] Although French explorers and navigators had repeatedly observed and described both Saint Paul and Amsterdam Islands between the sixteenth and eighteenth centuries, it was not until 1892 that France took definitive possession of these territories.

Following several decades of limited international Antarctic activity, the Sixth International Geographical Congress in 1895, revived interest in the region. The early 1900s is often referred to as the heroic age of exploration – a time when Antarctic interests and activities were primarily focused on scientific investigation and discovery.[13] French Antarctic interest was rekindled with the 1903-1905, and 1908-1910 expeditions of Jean-Baptise Charcot, whose scientific voyages also sought to reaffirm France's regional

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[11] Although Dumont d'Urville sighted the Antarctic continent on 21 January 1840, inclement weather prevented continental disembarkation. D'Urville instead disembarked on an islet close to île des Pétrels. Casarini, "Activities in Antarctica," 629; François Garde, "l'antarctique, ultime frontière de l'europe?" *Union Européenne et outre mers unis dans leurs diversités*, 411-426 (Aix en Provence: Presses Universitaires d'Aix-Marseille, 2008), 413.
[12] Van der Essen, "The Origin of the Antarctic Treaty System," 17.
[13] An increased demand for whale oil meant that the Antarctic also remained highly important in both economic and strategic terms.

presence.[14] As states began to realise the potential strategic and economic value of Antarctica – prompted by increasing international competition for declining whale stocks, and a growing interest in Southern Ocean fisheries, several nations set about claiming portions of the continent.[15]

The partition of Antarctica – France makes a claim

The international partitioning of Antarctica occurred during the first half of the twentieth century, with seven nations asserting territorial claims to parts of Antarctica, as well as sub-Antarctic islands.[16] The partition of Antarctica commenced when the United Kingdom (UK) formally claimed Antarctic territory in 1908, followed by New Zealand in 1923, and France in 1924 with the annexation of Adelie Land.[17] In 1924, Adelie Land, as well as Saint Paul

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[14] William A. Hoisington, "In the Service of the Third French Republic: Jean Baptiste Charcot (1867-1936) and the Antarctic," *proceedings of the American Philosophical Society,* 119.3 (1975), 315.

[15] Robert E. Wilson, "National Interests and Claims in the Antarctic," *Journal of the Arctic Institute of North America,* 8.16 (1955): 17; Alain Gandolfi, *Le Systéme Antartique* (Paris: Presses Universitaires de France, 1989), 15; Bertrand Imbert, "Les expéditions antarctiques françaises de l'année géophysique international 1957-1958," *Revue du Palais de la Découverte,* 1.1 (1983): 47; Marcelo G. Kohen, *Possession Contestée et Souveraineté Territoriale*, (Paris: Presses Universitaires de France, 1997), 104.

[16] Wilson, "National Interests and Claims in the Antarctic," 17.

[17] After questioning from the British Embassy regarding France's intention to stake a territorial claim, France based its 1924 claim on d'Urville's first sighting of Adélie Land in 1840. Four more nations went on to make claims to Antarctic territory – Australia (1933), Norway (1939), Chile (1940), and Argentina (1942 – amended 1946). Following the exclusion of Adélie Land from the British claim of 1933 (under the administration of the Commonwealth of Australia), French-British negotiations further defined France's claim, with the decree of the 1st of April 1938 declaring the islands and territories situated south of 60° South, between 138° and 142° East to be under the sovereignty of France. Ministère des Affaires Étragnères – les archives diplomatiques: Traités Multilateraux, "Echange de lettres entre la France et la Grande-Bretagne, cette dernière également au nom de l'Australie et de la Nouvelle Zélande, comportant un accord relatif au droit de libre survol des aéronefs au-dessus des territoires antarctiques britanniques et français" *S.D.N.* 192.156 R.G.T.F, 1ère série, vol. III (Paris, 25 octobre 1938): 324. See, J.F. Da Costa (ed.), *Souveraineté sur l'Antarctique,* (Paris: Librairie Générale de Droit et de Jurisprudence, 1958), 14; David W. Heron, "Antarctic Claims," *Foreign Affairs*, 32 (1953-54): 664; and Richard Bilder, "The Present Legal and Political Situation in Antarctica," in *The New Nationalism and the Use of Common Spaces:*

and Amsterdam Islands, were placed under French Fisheries Regulations, and were managed by the French Government of Madagascar.[18] Growing interest in whaling and other sub-Antarctic fisheries also contributed to France making an official claim. With the commencement of modern pelagic whaling in the Antarctic region in 1923, whaling nations such as France upheld the possibility of economic benefits derived from the sale of licenses for commercial sealing and whaling – an expansion of national territory was seen as imperative to French national interests.

The increasing number of Antarctic expeditions, as well as the various national claims staked in the early decades of the twentieth century, ignited international rivalry to secure territorial claims in Antarctica.[19] This was to endure from the first decade of the twentieth century up to the mid 1940s. Following France, Australia (1933), Norway (1939), Chile (1940), and Argentina (1942) went on to claim various Antarctic territories.[20] The late

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Issues in Marine Pollution and the Exploitation of Antarctica, ed. Jonathan Charney, 167-205 (Totowa N.J: Allanheld, Osmun Publishers, 1982): 168.

[18] France's claim was further defined in 1938. See, Lorraine M. Elliott, *International Environmental Politics: Protecting the Antarctic* (Hampshire: The Macmillan Press Ltd., 1994), 27; Robert D. Hayton, "The Antarctic Settlement of 1959," *The American Journal of International Law*, 54 (1960): 351.

[19] It is important to note that issues related to Antarctic claims are often contested – Article IV of the Antarctic Treaty is interpreted in different ways depending on the perspectives of claimants and non-claimants. Consequently, scholarship on this subject area is also widely interpreted. See, Klaus Dodds, "The Antarctic Peninsula: Territory, Sovereignty Watch and the 'Antarctic Problem,'" in *Antarctic Security in the Twenty-First Century: Legal and Policy Perspectives*, ed. Alan D. Hemmings, Donald R. Rothwell and Karen N. Scott, 95-116 (Abingdon: Routledge, 2012); Peter J. Beck, *The International Politics of Antarctica* (Surrey Hills: Croom Helm Ltd., 1986); Christy Collis, " The Proclamation Island Moment: Making Antarctica Australian," *Law Text Culture*, 8:1 (2004): 37-56; Shirley V. Scott, "Managing Sovereignty and Jurisdictional Disputes in the Antarctic: The Next Fifty Years," in *The Year Book of International Environmental Law,* ed. Ole Kristian Fauchald, David Lunter and Xi Wang, 20 (2009): 3-41.

[20] Despite its imperial ambitions, Britain did not contest the validity of the French claim as France had confirmed its Antarctic intentions with Britain over a decade earlier. Nevertheless, France's claim did prompt slight disquiet within Australia due to uncertainty concerning the boundaries of Adélie Land that potentially compromised Australia's

1940s and early 1950s witnessed the development of what is commonly referred to as the Antarctic Problem.[21] This involved a territorial dispute between Argentina, Chile, and the UK concerning overlapping claims in the Antarctic. This took place amidst a climate of intensifying super power rivalry between the United States (US) and the Union of Soviet Socialist Republics (USSR) that signaled the beginning of the Cold War period. In an attempt to counteract the rising international hostility and tension brought about by these events throughout the late 1940s, Chilean Professor Julio Escudero Guzzman suggested that interested nations adopt a temporary *modus vivendi* arrangement in Antarctica, in which all existing claims would be frozen, and international scientific cooperation would be encouraged.[22]

Antarctic exploration entered a new phase throughout the 1940s and 50s as several nations established permanent occupancy on both the continent, as

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Antarctic ambitions. A muted tension over the issue persisted between the two countries until 1939.

[21] Alan D. Hemmings, "Security Beyond Claims," in *Antarctic Security in the Twenty-First Century: Legal and Policy Perspectives*, ed. Alan D. Hemmings, Donald R. Rothwell and Karen N. Scott, 70-94 (Abingdon: Routledge, 2012); Dodds, "The Antarctic Peninsula," 95-116; Beck, *The International Politics of Antarctica;* Hunter E.W. Christie, *The Antarctic Problem: An Historical and Political Study* (London: Allen Unwin, 1951); Robert Hall, "Casey and the Negotiation of the Antarctic Treaty," in *The Antarctic: Past, Present and Future*, ed. Julia Jabour-Green and Marcus Haward, 27-33 (Hobart: Law Policy, and International Relations Sub-program, Antarctic Cooperative Research Centre, 2002).

[22] Patrizia de Cesari, "Scientific Research in Antarctica: New Developments," in *International Law for Antarctica,* ed. Francesco Francioni and Tullio Scovazzi, 413-455 (The Hague: Kluwer Law International, 1996): 417. All nations involved in Antarctic affairs were approached for their opinion on the future management of Antarctica. Disfavouring the Chilean initiative, the US initially preferred the concept of internationalisation in order to solve the problem of conflicting sovereignty claims. However, France believed that internationalisation of the continent was both unnecessary and problematic, and that the issue of sovereignty did not need to be discussed at all. By 1949, the US had accepted the merit of the Chilean *modus vivendi* proposal, and discussions between the two nations commenced in 1950. In 1949, the Soviet Union made its first formal announcement regarding the Antarctic problem, stating that without Soviet involvement it could not legally recognise any decisions pertaining to the management of the Antarctic. This signaled the involvement of an eighth actor in Antarctic affairs.

well as certain sub-Antarctic islands.[23] Commencing in the late 1940s, France was among the first nations to establish research stations in the Antarctic.[24] In 1945, the French Government approved a proposal put forward by explorer and ethnographer, Paul-Emile Victor, for the establishment of an official French Antarctic research program – *Expéditions Polaires Françaises (EPF),* which also undertook significant research work in the Arctic.[25] Responsible for the organisation of France's Polar expeditions, the *EPF* constructed bases on France's sub-Antarctic islands, and also established two continental stations in preparation for the International Geophysical Year (IGY) scheduled for 1957-58.[26]

In 1949, France established the *Martin de-Viviés* base on Amsterdam Island, to be followed in 1951, by the construction of *Port aux Français* as a permanent base on Kerguelen Island. *Marret* base was established in 1952 on *Île des Pétrels* following a fire at Port Martin, situated 65 kilometers to the east. In preparation for the imminent IGY, the French commenced the construction for Dumont d'Urville Station (located on *Île des Pétrels*, in Adelie Land) in

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[23] Throughout this period, twelve nations established forty-eight research stations. See Paul-Emile Victor, "Préface," in *Souveraineté sur l'Antarctique,* ed. J.F. Da Costa (Paris: Librairie Générale de Droit et de Jurisprudence, 1958); Garde, "l'antarctique, ultime frontière de l'europe?" 413.

[24] By 1945, France was establishing official Antarctic research programs, with the government approving a polar research proposal put forward by explorer and ethnographer Paul-Emile Victor. In 1947, Victor founded the *Expeditions Polaires Francaises (EPF),* with the goal of furthering French scientific knowledge and research in the polar regions.

[25] In 1992, the *EPF* fused with the research management section of the *TAAF* to become the *Institut Français pour la Recherche et la Technologie Polaires (IFRTP).*

[26] Unlike the International Polar Years that preceded the 1957-58 IGY (held in 1882-1884, and 1932-1933), the 1957/58 IGY aimed to focus specifically on outer space and the Antarctic region. A Special Committee for the IGY, *Comité Spécial de l'Année Géophysique Internationale (CSAGI)*, was formed in 1952 to act as the governing body for all Antarctic IGY activities. Matters relating to the Antarctic were discussed at special *CSAGI* meetings, the first of which was held in Paris in 1955.

1955.[27] Dumont d'Urville Station has operated continuously as France's Antarctic scientific observatory since 1956.

On 6 August 1955, *Terres australes et antarctiques françaises (TAAF),* comprising *Île St Paul, Île Amsterdam, Îles Kerguelen, Îles Crozet*, and *Terre Adélie,* was established. Detached from governance in Madagascar, the *TAAF* became an overseas territory of France, with financial and administrative autonomy.[28] A second French base, *Charcot*, was established on the Antarctic continent in 1957 in preparation for the IGY, and *Alfred Faure* base was constructed on *Île de la Possession* – the largest island comprising the Crozet archipelago in 1964.[29]

Whilst demonstrating a strong commitment to science, the establishment of national stations also highlights the increasing development of political interests in Antarctica at this time.[30] Although stations were established in anticipation of the upcoming IGY, they also leant legitimacy to the existing claims by establishing occupancy, and enabled a reaffirmation of territorial sovereignty.[31]

Between 1949 and 1952, three French expeditions wintered in Antarctica for the first time. Throughout this period, programs established and elaborated in the context of the IGY, enabled significant opportunities for exchange with

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[27] Yvonne Rebeyrol, "In the absence of sufficient funds, the French Antarctic base could be abandoned," *Le Monde* (2 February 1978): 2

[28] Casarini, "Activities in Antarctica," 675.

[29] While these island territories do not have a permanent population, the bases receive between fifty and one hundred and twenty personnel annually in order for France to undertake scientific research in various disciplines; Imbert, "Les expéditions antarctiques françaises," 66.

[30] The French Academy of Sciences dedicated approximately half of its IGY budget to three expeditions in Adelie Land. See, Imbert, "Les expéditions antarçtiques francaises," 665.

[31] Evan Luard, "Who owns the Antarctic," *Foreign Affairs,* 62 (1984): 1175-1194.

foreign colleagues, and facilitated the development of ongoing international links and networks. Throughout the eighteen-month IGY period, twelve nations engaged in cooperative research activities in the Antarctic. Originally meant to last from June 1957 to December 1958, the IGY proved to be such a success that participating nations soon established permanent scientific research programs in order to continue their presence and activities in Antarctica after the conclusion of the IGY. With sixty-one nations involved in the collaborative initiative by the end of 1958, and the implementation of fifty scientific observatories on the Antarctic continent, the IGY in effect constituted the most significant demonstration of international cooperative efforts in Antarctic science up to that point in time.

The high level of international cooperation provided a springboard for the development of new fields of Antarctic scientific research that continue to this day. It also set the scene for enhanced scientific cooperation in the following decades, and resulted in the development of the Scientific Committee on Antarctic Research (SCAR) in 1958, in order to ensure that the coordination of international scientific activities continued. France's *Dumont d'Urville* station was maintained after the end of the IGY, and turned into a permanent research station.[32]

Although 'it has been difficult to separate science from politics' in Antarctica, and in spite of the complex interplay of political and strategic forces active in world politics throughout the Cold War period, the IGY is widely considered

[32] The international success of the IGY and the need to diffuse tension regarding the legitimacy of Antarctic claims and territorial sovereignty rights, prompted the US to propose a year long continuation of scientific programs in Antarctica following the closure of the IGY in 1958. Despite the fact that several participating nations were unsupportive of the idea (largely due to the cost of such an undertaking), the proposal was agreed upon by most IGY participating nations at a meeting held in Paris in June 1957.

to represent 'the triumph of science over politics' in the Antarctic.[33] It demonstrated the value of ongoing international scientific cooperation, while also providing the opportunity to put aside sensitive geopolitical issues such as territorial sovereignty disputes, and the non-recognition of existing Antarctic claims by non-claimant nations.[34] The IGY also provided the context in which interested states could begin thinking about how to articulate the political and legal situation in Antarctica by developing a legally binding regime specifically dedicated to the region. Consequently, the IGY provided the 'vital impetus,' and necessary 'ground work' for the negotiation of the Antarctic Treaty.[35] In 1958, the United States invited the eleven other participating IGY states[36] to attend an international conference to discuss the prospect of the development of an international Antarctic management regime in the form of a multilateral treaty. Fifteen months of talks and negotiations in Washington ensued, with the Conference on Antarctica commencing on 15 October 1959, and culminating in the signing of the Antarctic Treaty on 1 December 1959 by the representatives from the twelve IGY nations. The Antarctic Treaty entered into force on 23 June 1961.[37]

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[33] De Cesari, "Scientific Research in Antarctica," 416.
[34] Davor Vidas, "The Antarctic Treaty System in the International Community: An Overview," in *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System*, ed. Olav Stokke and Davor Vidas, 35-60 (Cambridge: Cambridge University Press, 1996): 37; Imbert, "les expéditions antarctiques françaises,"66.
[35] Christopher Beeby, "The Antarctic Treaty System: Goals, Performance and Impact," in *The Antarctic treaty System in World Politics* ed. Arnfinn Jorgensen-Dahl and Willy Ostreng, 4-21 (London: Macmilland Academic and Professional Ltd., 1991): 8. See also, Elliott, *International Environmental Politics,* 30; Gandolfi, *Le Systéme Antarctique*, 19. Imbert, "les expeditions antarctiques françaises," 68; Garde, "L'antarctique, ultime frontier de l'europe?" 415.
[36] Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the United Kingdom, and the Soviet Union.
[37] James Hanessian, "The Antarctic Treaty 1959," *The International and Comparative Law Quarterly*, 9 (1960), 460.

The development of the Antarctic Treaty

At the heart of the ATS is the Antarctic Treaty (hereafter referred to as the Treaty). Since its entry into force, the Treaty has been built on the cooperation of Treaty Parties working towards the mutual goals of peaceful and effective management of the Antarctic. This has enabled the evolution of the Treaty into a comprehensive system of distinct, but complementary institutional arrangements that provide an international framework for the governance of the Antarctic.[38]

Upon the closure of the IGY in 1958, it was evident to a number of participating nations, that a permanent international Antarctic management regime was needed to ensure that the continent remained non-nuclear (in relation to weapons and the disposal of nuclear waste), demilitarised, and a region dedicated to peace and science.[39] In ratifying the Treaty, the twelve original signatories to the Treaty sought to develop 'a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year.'[40]

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[38] IPY-IPO, "Antarctic Treaty Summit: Science Policy Interactions in International Governance," *IP 88*, ATCM XXXI-CEP XI (Kyiv, 2008): 3.
[39] Donald Rothwell, "The Antarctic Treaty System: Resource Development, Environmental Protection or Disintegration?" *Arctic*, 30 (1990): 28. See also, Gandolfi, *Le Système Antarctique*, 24.
[40] IPY-IPO, "Antarctic treaty Summit," 3.

The Antarctic Treaty

Entering into force on 23 June 1961, following its ratification by the relevant governments,[41] the Treaty is 'the first in a complex set of conventions and measures – collectively known as the Antarctic Treaty System,' and is the cornerstone of an international regime that determines the behavior and actions of signatory nations in the Antarctic.[42] Article VI of the Treaty defines the Treaty zone of application as the area covering south of 60° South latitude, including the entire Antarctic continent, ice shelves and off-lying islands, but excluding the high seas.[43]

The Treaty brings together multiple state actors of varying capacities, and involves all the major world powers. According to Elliott, in seeking to negotiate a treaty, signatory nations were primarily motivated by self interest, with claimant nations in particular believing their interests could only be protected by the development of a treaty.[44] Beeby adds, that the doctrine of international cooperation established by the Treaty is generated by the need of states to uphold national self-interest, rather than necessarily a desire to engage collaboratively in Antarctic affairs as a matter of international good will.[45]

In addition to the original twelve signatories, another thirty-eight nations have acceded to the Treaty since 1959 (having fulfilled the requirements of

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[41] Robert H. Hall, "Casey and the Negotiation of the Antarctic Treaty," in *The Antarctic: Past, Present, and Future*, ed. Julia Jabour-Green and Marcus Haward, 27-33 (Hobart: Law, Policy, and International Relations sub-Program, Antarctic Cooperative Research Centre, 2002): 27.
[42] Ibid.
[43] Hanessian, "The Antarctic Treaty 1959," 471; See, "The Antarctic Treaty," signed in Washington, D.C., 1 December 1959, http://www.ats.aq/documents/ats/treaty_original.pdf
[44] Elliott, *International Environmental Politics*, 32.
[45] Christopher Beeby, *The Antarctic Treaty* (Wellington: New Zealand Institute of International Affairs, 1972), 4.

Article IX(2)).[46] Of these, twenty-eight nations have full consultative status, and are referred to as the Antarctic Treaty Consultative Parties (ATCPs). The remaining twenty states are non-consultative parties, and therefore do not have voting rights under the Treaty.

As an 'international cooperative commitment,' the Treaty is faced with a complex task – the management of a vast, relatively unknown area that involves the interests of many states.[47] As pointed out by a number of international regime scholars, the Treaty can therefore be regarded as, 'an attempt to provide a set of rules in complex circumstances.'[48] These circumstances can be widely classified as geopolitical/strategic (representing conflicting national interests, and territorial claims, as well as concerns and disputes relating to the ownership and distribution of natural resources); environmental (indicative of the unique environmental characteristics of the Antarctic region, and international recognition of the urgent need to uphold the protection of these values); and scientific (highlighting the fundamental role the Antarctic region is playing in terms of contemporary research into climate change, biodiversity loss, natural resource management, and species conservation).

Forming the 'legal framework' for managing Antarctic related issues, the Treaty consists of fourteen articles providing five key provisions.[49] The

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[46] According to Article IX, paragraph 2 of the Antarctic Treaty, Parties are entitled to participate in the Consultative Meetings as long as they demonstrate their interest in Antarctica by 'conducting substantial research there.'

[47] Mathieu Demarthon, "International Polar Year – Spotlight on the Poles," *CNRS International Magazine*, 6 (2007): 19.

[48] Roberto E. Guyer, "The Antarctic System," *Recueil des Cours: Collected Courses of the Hague Academy of International Law*, Tome 139 (The Hague: Academie de Droit de La Haye, 1973): 154.

[49] James N. Barnes, "The Emerging Convention on the Conservation of Antarctic Marine Living Resources: An Attempt to Meet the New Realities of Resource Exploitation in the

Preamble of the Treaty outlines the two fundamental principles that govern activities in the region, and that underpin the entire ATS: first, it stipulates that Antarctica is to be used for peaceful purposes only[50] – nuclear explosions, the dumping of radio-active waste, and militarisation of the Antarctic are prohibited.[51] The French ATCM representative at the time, Ambassador Pierre Charpentier, openly encouraged the notion that 'controlled military neutralization of the Antarctic should be instituted in the form of a convention,' and emphasised the critical necessity of all interested governments committing to such a regime.[52] This clearly highlights France's strong belief in maintaining a status of peace on the Antarctic continent, as well as demonstrating its commitment to maintaining the overall integrity of the Antarctic Treaty, and its key governing principles.

Second, the Treaty encourages international cooperation regarding scientific investigation, and promotes the exchange of scientific research observations and data.[53] In addition, Antarctic stations and facilities are subject to unlimited inspections by observers that are nationals of other ATCP's, in order to ensure adherence to the Treaty provisions. Article IV of the Treaty freezes the existing Antarctic claims as they were in 1959, and prohibits the assertion of new claims or the enlargement of existing claims.[54] To a degree this assists in protecting sovereignty rights over the sectors claimed by

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Southern Ocean," in *The New Nationalism and the Use of Common Spaces: Issues in Marine Pollution and the Exploitation of Antarctica*, ed. Jonathan I. Charney, 239-275 (Totowa, NJ: Allanheld, Osmun Publishers, 1982): 242.

[50] Beeby, "The Antarctic Treaty System," 5.

[51] Hayton, "The Antarctic Settlement," 358.

[52] Ibid, 357.

[53] Guyer, "The Antarctic System," 179.

[54] Mathew Howard, "The Convention on the Conservation of Antarctic Marine Living Resources: A Five Year Review," *International and Comparative Law Quarterly*, 38 (1989): 106; Rothwell, "The Antarctic Treaty System," 285.

Argentina, Australia, Chile, France, New Zealand, Norway and the UK.[55] It is important to note that although these claims are mutually recognised between claimants (with the exception of Argentina, Chile, and the UK), they have been contested or rebuked by other Treaty member States.[56]

Complementary to this, Article V, conforming to contemporary views on international law, recognises the freedom of states on the high seas (a problem that was rectified with the recognition accorded to coastal states of an exclusive economic zone (EEZ) of two hundred nautical miles from their coastline rights under the United Nations Law of the Sea Convention (UNCLOS) in 1982).

Molenaar confirms that it is the contested claims to the Antarctic that 'lie at the very heart of the Antarctic Treaty and the ATS.'[57] Pinochet de la Barra states that although French Antarctic Treaty delegate, Professor Andre Grouse, strongly promoted the idea of Antarctica as a continent dedicated to peace and science at the 1959 Conference on Antarctica, France (along with Chile and Argentina) opposed the notion of a perpetual freezing of sovereignty rights, claiming that this would represent a renunciation of their territorial claims.[58] Since this time, claimant and non-claimant states have

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[55] Victor Prescott and Clive Schofield, *The Maritime Boundaries of the World* (Boston: Martinus Nijhoff Publishers, 2005), 533.
[56] René-Jean Dupuy, "Le Statut Antarctique," *Annuaire de droit international,* 4 (1958): 196-229; Laura Pineschi, "The Madrid Protocol on the Protection of the Antarctic Environment and its Effectiveness," in *International Law for Antarctica,* ed. Francesco Francioni and Tullio Scovazzi, 261-292 (The Hague: Kluwer Law International, 1996).
[57] Erik J. Molenaar, "CCAMLR and Southern Ocean Fisheries," *The International Journal of Marine and Coastal Law,* 16 (2001): 477.
[58] Oscar Pinochet de la Barra, "The Development of the Antarctic Treaty System – Review of Past Developments," in *On the Antarctic Horizon*, proceedings of the International Symposium on the Future of the Antarctic Treaty System, ed. Andrew Jackson, 7-22 (Australian Antarctic Foundation, 1995).

'opted for an agreement to disagree on Antarctic claims' in order to preserve the integrity of the Antarctic Treaty.[59]

The Antarctic Treaty constitutes a 'remarkable diplomatic instrument,'[60] owing to the suite of unique and important principles encompassed within its framework. Nevertheless, a declaration of these principles is not sufficient – a legal and institutional capacity to apply these principles in a concrete and absolute manner is necessary.[61] Established under Article IX(1) of the Antarctic Treaty, the Antarctic Treaty Consultative Meeting (ATCM) is a permanent institutional mechanism that enables ATCPs to consult, propose recommendations, and undertake decisions that aim to ensure that the principles and objectives of the Treaty are upheld, and pursued through a process of consensus based decision-making.[62] According to Stokke and Vidas, the capacity of ACTPs to formulate Antarctic law and politics through the provision of consultative meetings contains 'the nucleus' of what eventually came to be referred to as the Antarctic Treaty System.[63]

Over the last five decades, ATCMs have initiated the progressive development of the Antarctic regime through the decision-making capacity granted to the ATCPs.[64] At a basic level, this allows for the implementation of measures[65] and resolutions, establishment of specific Working Groups, and the convening of meetings of experts on an intersessional basis. More

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[59] Molenaar, "CCAMLR and Southern Ocean Fisheries," 477.
[60] Karen N. Scott, "Managing Sovereignty and Jurisdictional Disputes in the Antarctic," proceedings from The State of Sovereignty – 20th Anniversary Conference of the International Boundaries Research Unit, 1-3 April 2009 (Durham, 2009): 2.
[61] Alfred Van der Essen, "Les réunions consultatives du traité sur l'Antarctique," *Revue Belge de Droit International,* 15 (1980): 20.
[62] Vidas, "The Antarctic Treaty System in the International Community," 37.
[63] Ibid.
[64] Winfried Lang and Hanspeter Neuhold (eds.), *Environmental Protection and International Law* (London: Graham and Trotman Limited, 1991), 215-216.
[65] Prior to 1995, Measures were referred to as Resolutions.

broadly, it has led to the establishment of complementary expert bodies and institutions based upon specific issue areas, and the development of additional binding agreements.

Given the wide and general scope of the Antarctic Treaty at the time of its negotiation, and considering that major issues relevant to the Antarctic have arisen following the Treaty's entry into force in 1961, the role of the ATCM as the principal forum for discussion and decision-making on all matters pertaining to the Antarctic is especially important. The ATCM is integral in enabling the Treaty to continue to evolve and adapt to new and changing circumstances and issues relevant to the management and protection of the Antarctic. According to Van der Essen, ATCMs 'permit the regular development of the Treaty principles,'[66] and also allow ATCPs to foresee, and potentially mitigate emerging or anticipated issues and threats. Measures adopted by Parties at ATCMs can only become effective upon the approval of all ATCPs. This requires CP representatives to undertake consultation with their respective governments in regard to specific recommendations and measures (and at times, this may also necessitate amendments to national legislation).

The Antarctic Treaty Secretariat was established under Measure 1 (2003), at ATCM XXVI, in Madrid, Spain. The Secretariat headquarters were established in Buenos Aires, Argentina in September 2004. Under the direction of the ATCM, the main tasks of the Secretariat include supporting the conduct of ATCMs and CEP Meetings, by facilitating information exchange between ATCPs; collecting, organising, and making available

[66] Alfred Van der Essen, "Les réunions consultatives du Traité sur l'Antarctique," *Revue Belge de Droit International,* 15 (1980): 20-27.

ATCM documents; and providing public information on ATCM, and Antarctic related activities.

The extent to which the Secretariat has the capacity to exercise any decision-making within the ATS has remained an area of prominent concern among many ATCPs. A number of long-standing, and influential Treaty Members have remained strongly oriented on retaining full decision-making powers within the ATCM, and have resisted the granting of any executive powers to the Secretariat,[67] adding that 'the success of the Treaty was its flexibility and the absence of an international type organisation which would tend towards politicization and form groups within itself.'[68]

The Antarctic Treaty System

Since its inception, the Antarctic Treaty has evolved into a collection of institutional and legal 'building blocks,' that include a 'complex network of recommendations, supplementary procedures and separate agreements concerned with not only political governance, but also resource management.'[69] Given that environmental protection and resource management are 'barely mentioned in the Treaty,' ATCPs decided to establish specific international institutional agreements aimed at addressing a variety of issues.[70] Collectively forming the ATS, the Treaty, and its complementary agreements 'embodying international cooperation,' have

[67] Gillian Triggs and Anna Riddell (eds.), "Introduction," in *Antarctica: Legal and Environmental Challenges for the Future,* 1-10 (London: The British Institute of International and Comparative Law, 2007), 2.
[68] ATCM XV, "The Final Report of the Fifteenth Antarctic Treaty Consultative Meeting," (Paris, 1989): 11.
[69] Elliott, *International Environmental Politics*, 25.
[70] Ibid, 52; Beeby, "The Antarctic Treaty System," 11.

enabled ATCPs to respond to a wide range of critical emerging environmental and social issues and concerns.[71]

Expert bodies outside of the Antarctic Treaty

The Scientific Committee on Antarctic Research (SCAR),[72] and the Council of Managers of National Antarctic Programs (COMNAP) are complementary expert bodies encompassed within the wider framework of the Antarctic Treaty System.[73] Although not actually mentioned in the Antarctic Treaty, SCAR was formed in October 1957 by the International Council of Scientific Unions (ICSU)[74] in order to manage all matters relating to Antarctic science, and plays a major role in providing scientific recommendations and advice pertaining to the Antarctic at ATCMs.[75] Similarly, COMNAP, established in 1988 by the National Antarctic Programs of ATCPs, provides the ATCPs with technical advice relating to the coordination and collaboration of national Antarctic expeditions at ATCMs.

Legal instruments established by Antarctic Treaty Consultative Parties

Intended to protect native wildlife and plant life on the Antarctic continent, and prevent the introduction of non-native species, the 1964 Agreed Measures for the Conservation of Flora and Fauna, was the first of several

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[71] Richard Rowe, "What will the Next 75 Years Bring?" in *Australia's Antarctica*, proceedings of a Symposium to mark 75 years of the Australian Antarctic Territory, 24 August 2011, edited by Julia Jabour, Marcus Haward, and AJ Press, (Hobart: Institute for Marine and Antarctic Studies, 2011): 121-125.

[72] It is important to note that while the establishment of SCAR predates the Treaty, and constitutes a separate institution, it is also included as an integral advisory body within the ATS.

[73] Anthony Bergin, "The Politics of Antarctic Minerals: The Greening of White Australia," *Australian Journal of Political Science*, 26 (1991): 217.

[74] Founded in 1931, now referred to as the International Council for Science.

[75] Beeby, "The Antarctic Treaty System," 11.

environmental management instruments developed under the ATS.[76] Taking into account the detrimental impacts of unregulated sealing in the Antarctic region, and recognising the need to protect Antarctic seals from potential over-exploitation in the future, the consultative parties negotiated the Convention for the Conservation of Antarctic Seals (CCAS) in 1972.[77]

(i) The Convention for the Conservation of Antarctic Marine Living Resources

As Antarctica became the site of increasing global commercial interest in marine resources throughout the 1970s and 1980s, and given the Treaty does not deal explicitly with the exploitation, ownership, or management of marine living resources, the ATCPs agreed upon the importance of establishing a separate but complementary convention dedicated to Antarctic marine living resource management.[78] Negotiated by the ATCPs, this agreement would involve nations with a direct interest in, or an intention to research, or exploit Antarctic marine living resources. In drafting a framework regime, ATCPs sought to agree upon key principles that ensured the conservation of marine life, whilst also allowing the rational harvesting of resources.[79] In order to limit the detrimental effects of over-exploitation on Antarctic ecosystems, and to reduce the chance of international conflict over resource use,[80] ATCPs negotiated the Convention for the Conservation of

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[76] (1964) 17 UST 991, ATS 6 (hereafter the Agreed Measures for the Conservation of Antarctic Fauna and Flora). See, Christopher C. Joyner, *Antarctica and the Law of the Sea* (London: Martinus Nijhoff Publishers, 1992), 161.
[77] The Convention entered into force in 1978, however, Antarctic sealing failed to commercially develop.
[78] Barnes, "The Emerging Convention," 243.
[79] Ibid, 248.
[80] Elliott, *International Environmental Politics*, 82. See also, Jean-Marc Lavieille, *Droit International de l'Environnement*, (Paris: Ellipses Edition Marketing, 2010): 292

Antarctic Marine Living Resources (CCAMLR) that entered into force in 1982.

It is important to note that UNCLOS negotiations were also underway throughout the 1970s.[81] In order to protect the exclusive rights of ATCPs over marine living resource exploitation in the Antarctic, it was imperative to the individual and collective interests of ATCPs, that a Treaty covering Antarctic marine living resources be developed prior to the signing of UNCLOS in 1982.[82]

With the commencement of formal convention negotiations in Canberra in early 1978, two issues of major contention became apparent. First, an issue regarding the prioritisation of values – as ATCPs refused to 'prohibit' the potential exploitation of a given resource under a negotiated convention, the capacity to balance environmental and geo-biological values with political and economic ones seemed intrinsically difficult;[83] and second, the considerable tensions surrounding the notion of territorial sovereignty – as geographically bounded differently from that of the Antarctic Treaty,[84] the proposed zone of application for CCAMLR would impinge upon the sovereignty of several islands lying north of 60° South in the southern sectors

[81] The Third United Nations Conference on the Law of the Sea (UNCLOS III) was held between 1974 and 1982. The Law of the Sea Convention, was signed on 10 May 1982 at Montego Bay, Jamaica. Entering into force on 16 November 1994, it is a 'constitution for the oceans,' providing the legal foundation for all actions and activities concerned with the oceans and the law of the sea. See, The United Nations Conference on the Law of the Sea, Doc. A/CONF.62/122, 7 October 1982, opened for signature on 10 December 1982, Part V, *International Legal Materials,* Vol. XXI, 1982, p. 1261-1354.

[82] Barnes, "The Emerging Convention," 244.

[83] Ibid.

[84] The Antarctic Treaty zone of application covers the area south of 60° South latitude, and includes the entire Antarctic continent, ice shelves, and off lying islands, but excludes the high seas.

of the Indian, and South Atlantic Oceans administered, or claimed by Argentina, Australia, France, Norway, South Africa and the UK.[85]

In relation to the legal positioning of CCAMLR within the broader framework of the Antarctic Treaty, Vignes draws attention to three important points. First, the preservation of state sovereignty assured by the application of the regulations relating to the freezing of existing Antarctic claims; second, the priority accorded to both the conservation and protection of the Antarctic environment and related and dependent ecosystems; and third, dedication of the Antarctic continent for scientific research purposes – all these regulations figure in the Treaty, and are taken up by the CCAMLR regime.[86]

– The French 'compromise' in CCAMLR

Two special consultative meetings held throughout 1978 failed to resolve these issues, and produce a draft convention that satisfied all parties.[87] France objected to a draft produced at an informal conference in Washington, D.C. in September of the same year, based on concerns relating to sovereignty over its undisputed islands located within the area encompassed by the draft convention. Barnes notes that the issue of Antarctic territorial claims and sovereignty rights generated the most significant pressure on ATCPs in their attempt to establish a convention.[88]

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[85] The French islands of Kerguelen and Crozet fall geographically within the CCAMLR Convention Area. See, Howard, "The Convention on the Conservation of Antarctic Marine Living Resources," 265.
[86] Vignes, "Le régime de la pêche maritime dans l'Antarctique," 248.
[87] This is in spite of eight nations (including France) developing draft agreements for a marine living resources treaty.
[88] Barnes, "The Emerging Convention," 243.

In spite of the development of revised versions of the 'written understanding' requested by France in order to clarify its sovereign rights in the 200 nautical mile zone[89] around Kerguelen and Crozet islands at a meeting in Bern, Switzerland, in early 1979, a draft acceptable to all Parties failed to be produced.[90] Negotiations were further delayed as France requested that either the boundary of the Convention Area be redrawn without the inclusion of its islands, or that 'explicit language' be used in the text of the Convention to ensure indisputable French jurisdiction over the waters surrounding Kerguelen and Crozet islands.[91]

Despite the fact that other member states claiming islands within the Convention Area, accepted that Article IV of the draft convention sufficiently protected their sovereignty,[92] France requested that a clear identification and articulation of its rights as a coastal state over the EEZs of Kerguelen and Crozet islands, be included as an annex to the Convention. France demanded, and was successful in obtaining, a special arrangement covering its island territories of Kerguelen and Crozet that fell within the proposed Convention Area. This would apply equally to the claims of other Parties possessing islands north of sixty degrees over which sovereignty is not

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[89] Pressure upon ATCPs to develop a marine living resources regime was heightened due to the United Nations Convention on the Law of the Sea (UNCLOS) negotiations that were underway throughout the 1970s. In order to protect the exclusive rights of ATCPs over marine living resource exploitation in the Antarctic, it was imperative to both their individual and collective interests that a Treaty covering Antarctic marine living resources be developed prior to the signing of UNCLOS in 1982. Under UNCLOS (which entered into force in 1994), coastal states have sovereign rights in a 200 nautical mile exclusive economic zone (EEZ) extending from the coastline of the territory. This enables coastal states to exercise jurisdiction over natural resources, as well as to undertake scientific research and manage environmental protection in their respective EEZs. See Donald Rothwell and Tim Stephens, "Illegal Southern Ocean Fishing and Prompt Release: Balancing Coastal and Flag State Rights and Interests," *The International and Comparative Law Quarterly,* 53 (2004): 171.

[90] Barnes, "The Emerging Convention," 262.

[91] Ibid.

[92] Australia, Norway, South Africa, and the United Kingdom.

contested.[93] This particular arrangement is the result of the Declaration of the Chairman (the Chairman's Statement).

Several revised draft annex versions were developed by eight countries (including France), in the lead up to the 1979 ATCM held in Washington, D.C., however, none were totally acceptable to every state. Following this meeting, an agreed version was offered to delegates to present to their respective governments for consideration. This Statement was finally agreed upon, and included as the Chairman's Statement in the Final Act at the diplomatic conference on the Conservation of Antarctic Marine Living Resources.[94]

The Chairman's Statement specifically relates to the application of the Convention to the waters adjacent to Kerguelen and Crozet Islands over which France has jurisdiction, as well as 'to waters adjacent to other islands within the Convention Area of application, over which the existence of State sovereignty is recognized by all CCAMLR Contracting Parties.'[95] States claiming sub-Antarctic islands reserve the right to opt-out of conservation measures that the State finds objectionable, difficult, or impossible with which to comply. The Chairman's Statement stipulates that measures relating to marine living resources in the EEZs of Kerguelen and Crozet Islands developed by France before the Convention enters into force, will

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[93] Vignes, "Le régime de la pêche maritime dans l'Antarctique," 251.
[94] Hereafter referred to as the Chairman's Statement.
[95] Although this Statement specifically refers to the sub-Antarctic islands over which France has jurisdiction, it also applies to other islands within the Convention Area – South Georgia Island, the South Orkney Islands, the South Sandwich Islands (all of which are claimed and subjected to international dispute between the UK and Argentina), Bouvet Island (Norway), Prince Edward and Marion Islands (South Africa), and Heard and McDonald Islands (Australia). See "The Statement by the Chairman of the Conference on the Conservation of Antarctic Marine Living Resources," *Text of the Convention on the Conservation of Antarctic Marine Living Resources* (1980): 23.

remain effective until altered by France acting within the Commission's framework. As a result, France can agree that the waters adjacent to these islands should be included in the area of application of any specific conservation measure under consideration, or indicate that they should be excluded for a particular conservation measure.[96]

France's perception of its decision to reserve the right to apply measures within its EEZ was a clear 'affirmation of incontestable sovereign rights.[97] All States possessing these islands were able to maintain that the creation of their respective EEZs did not constitute a claim (as elsewhere they were not prohibited by the text), and was simply recognition under international law of their coastal State jurisdiction over a space of which their sovereignty is uncontested.[98]

CCAMLR was adopted on 20 May 1980 at a formal conference in Canberra, and entered into force on 7 April 1982. To carry out the work of the Convention, the CCAMLR Commission was established under Article VII of the Convention, the Secretariat of which is based in Hobart, Australia. France played a decisive, and influential role in the negotiation of the Convention, and the development of the Chairman's Statement. It did so by consistently exercising its bargaining power as a prominent Treaty member and claimant state, over issues relating to sovereignty rights and territorial jurisdiction within its EEZs.

France remains an active Member of the CCAMLR Commission, as well as the CCAMLR Scientific Committee, and demonstrates a strong capacity to

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[96] Ibid.
[97] CCAMLR-XIII, "Report of the Thirteenth Meeting of the Commission" (Hobart, 1994): 65.
[98] Vignes, "Le régime de la pêche maritime dans l'Antarctique," 250.

cooperate on the key issue areas that come under the Convention – notably, fishery resource management, the problem of IUU fishing, mitigation of incidental seabird mortality, ensuring the implementation of ecosystem based management approaches, and most recently, bioregional planning for marine protected areas.

(ii) France, CRAMRA, and the Reorientation of the ATS

It was towards the end of the 1980s that the formal development of environmental measures for the protection of the Antarctic began to be considered within a wider global political context – a trend that commenced with the establishment of CCAMLR in 1982, and was completed with the adoption of the Madrid Protocol on Environmental Protection at the beginning of the 1990s. The Protocol was established after the demise of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) – a convention that never entered into force due to what were perceived to be inadequate rules regarding environmental protection. Significantly contributing to the overall evolution of the Treaty system, this series of institutional developments represented not only a significant alteration in the attitudes and priorities of many of the contracting parties, but also indicated the occurrence of a dramatic shift in regard to the future direction of the legal, political, and environmental management of the Antarctic.

As increasing international interest to potentially exploit Antarctic mineral resources emerged during the 1970s – prompted by fears of global petroleum

resource scarcity, and the significant rise in oil prices,[99] the ATCPs turned their attention to negotiating a regime for the regulation of mineral resources.[100] There is no reference to either minerals, or the question of mining contained in the Antarctic Treaty, neither had provision been made under a separate agreement.[101] According to Francioni, it is issues surrounding the utilisation and management of natural resources of the Antarctic region that have prompted the ATS to expand and evolve continually.[102]

As was the case with the negotiations for the establishment of both the Antarctic Treaty and CCAMLR, the question of mining raised numerous geopolitical, economic, and environmental concerns. Antarctica – due to its potential wealth of mineral resources, had gained increasing international visibility throughout the 1980s, and the ATS faced severe criticism from a group of developing nations led by Malaysia.[103] Claiming that the ATS constituted an 'exclusive club,' and fearing that they would not share in the economic benefits derived from potential Antarctic mineral resource exploitation, these developing nations advocated that the ATS be replaced by

[99] Two major international events in the 1970s contributed to the rise of Antarctic mineral resources as an issue of global prominence. Firstly, the discovery of traces of methane and ethane during the Deep Sea Drilling Project in 1971-72, heightened speculation regarding the existence of hydrocarbons on the continental shelf. Secondly, the Arab oil embargo in 1973-74, caused oil prices to quadruple, prompting concerns over the future availability of petroleum resources.

[100] It was at the sixth ATCM in Tokyo in 1970, that an interest in Antarctic minerals was first formally expressed. See, Christopher Joyner, "The Antarctic Minerals Negotiating Process," *The American Journal of International Law,* 81.4 (1987): 888.

[101] Donald Rothwell, *The Polar Regions and the Development of International Law* (Cambridge: Cambridge University Press 1996), 336. See also, Romualdo Bermejo, *l'Antarctique et ses ressources minérales: le nouveau cadre juridique* (Paris: Presses Universitaires de France, 1990).

[102] Ibid.

[103] Beck, "A New Factor in Polar Relations," 65.

an international regime couched within the United Nations (UN).[104] These factors contributed to an increase in the tension between claimants, consultative and non-consultative parties, as well as nations not Party to the Treaty. Despite complex debates and discussions concerning Antarctic mineral resources ensuing for seven years, formal negotiations for a convention to manage Antarctic minerals exploitation did not commence until 1982.[105]

The result of a lengthy, contentious, and challenging negotiating process dominated by questions relating to sovereignty, territorial claims, resource ownership and management rights, CRAMRA was adopted on 2 June 1988 in Wellington, New Zealand, and opened for signature on 25 November that same year.[106] Constituting another instrumental ATS element, the Convention enabled Consultative Parties to develop principles, rules, and institutions for the regulation and management of potential future mineral resource activities in the region.[107]

Despite the conclusion of negotiations, environmental non-governmental organisations (ENGOs), such as the Antarctic and Southern Ocean Coalition (ASOC), saw the Convention as essentially a 'slippery slope' to future Antarctic mining, and incompatible with environmental protection

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[104] De Marffy, Annick, "L'Antarctique – quatre ans de débat a L'O.N.U., *Espaces et Ressources Maritimes*, 2 (1987): 4; Marie Françoise Labouz, "Les aspects strategiques de la question de l'Antarctique," *Revue générale de droit international public*, Tome 90.3 (1983): 579-595.
[105] ECO, "Antarctic Minerals Negotiations Continue," *ECO* XXVI, 1 (Washington, D.C., 1987).
[106] Christopher Beeby, "The Convention on the Regulation of Antarctic Marine Living Resources and its Future," in *Antarctica's Future: Continuity and Change,* ed. Richard Herr, Robert Hall, and Marcus Haward, 47-60 (Hobart: Australian Institute of International Affairs, 1990): 47. See also, Alfred Van der Essen, "La Protection de l'Environnement dans l'Antarctique," *Revue Belge de Droit International*, 18 (1984-1985): 617-622.
[107] Elliott, *International Environmental Politics,* 135. See also, Josyane Couratier, "La Convention sur la réglementation des activités relatives aux ressources minèrales de l'Antarctique (Wellington – 2 juin 1988)," *Annuaire Français de Droit International*, 34 (1988): 764-785.

principles.[108] As a result, a campaign against the signing of CRAMRA gathered strength within two of the major Treaty Parties – France and Australia.

Under the leadership of Prime Minister Michel Rocard, France was the first nation to publicly state its reservations regarding the Convention in April 1989. Following this, the Australian Government under the leadership of Prime Minister Bob Hawke, announced on 22 May 1989, that Australia would not sign the Convention,[109] instead, proposing the development of a comprehensive environmental protection regime that would prohibit mining, and classify Antarctica as an international wilderness reserve.[110] France definitively declared its refusal to sign CRAMRA in June 1989.[111]

At this time, international support for CRAMRA began to decline, as other ATCPs started to question the legitimacy, and potential environmental implications of the Convention.[112] France and Australia's joint rejection of CRAMRA effectively brought an end to the Convention – as Article 62

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[108] ASOC coordinated the anti-CRAMRA campaign in Australia. See, Bergin, "The Politics of Antarctic Minerals," 224; Christopher Joyner and Ethel Theis, *Eagle Over the Ice: The US in the Antarctic* (Hanover: University Press of New England, 1997), 56; Rodney McCulloch, "Protocol on Environmental Protection of the Antarctic Treaty – The Antarctic Treaty – Antarctic Mineral Resource Activities," *Georgia Journal of International and Comparative Law*, 22 (1992): 214.

[109] Elliott, *International Environmental Politics,* 170.

[110] Bergin, "The Politics of Antarctic Minerals," 216; Gillian Triggs, "A Comprehensive Environmental Regime for Antarctica: A New Way Forward," in *Antarctica's Future: Continuity and Change,* ed. Richard Herr, Robert Hall and Marcus Haward, 103-119 (Hobart: Australian Institute of International Affairs, 1990): 103.

[111] McCulloch, "Protocol on Environmental Protection," 216.

[112] Richard Woolcott, "The Continuing International Importance of the Antarctic Treaty," in *The Antarctic: Past, Present and Future,* ed. Julia Jabour-Green and Marcus Haward (Hobart: Law, Policy, and International Relations sub-Program, Antarctic Cooperative Research Centre, 2002): 22. See also, Lee Kimball, "Conservation and Antarctic Policy Making: The Antarctic Conservation Agenda," in *Antarctica's Future: Continuity and Change,* ed. Richard Herr, Robert Hall, and Marcus Haward (Hobart: Australian Institute of International Affairs, 1990): 87.

requires all states with claims to ratify the Convention in order for it to enter into force.[113] With the conclusion of prolonged and arduous negotiations surrounding CRAMRA, the decision of several ATCPs, led by France and Australia, to refuse ratifying the Convention, marked a turning point in Antarctic environmental policy, and played a 'decisive role' in the overall evolution of Antarctic affairs.[114] CRAMRA has never entered into force due to the perception that the rules and regulations established under the Convention were insufficient regarding the protection of the Antarctic environment.

– France's role in the demise of CRAMRA

There are three, related explanations for France's rejection of CRAMRA. The first is related to the desire to maximise access to Antarctic resources (that claimant nations considered to be their own), while minimising financial costs. Considering that CRAMRA provided no guarantee that claimants would receive greater economic benefits than non-claimants if mineral resources were ever discovered on the continent, in the end, the costs associated with membership to CRAMRA's various regulatory committees, may have been considered too steep by France (particularly as claimants would be required to be members of all committees established under the Convention).

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[113] To enter into force the Convention also required the ratification of at least sixteen of the twenty-four ATCPs at the time. In addition to needing the ratification of the seven Antarctic claimant states, the Convention also required the ratification of the US and Soviet Union to enter into force. See, Christopher Joyner, "The Effectiveness of CRAMRA," in *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System in world Politics,* ed. Olav Stokke and Davor Vidas, 152-173 (Cambridge: Cambridge University Press, 1996): 162; Woolcott, "The Continuing International Importance of the Antarctic Treaty," 22.

[114] Ibid. See also, André Oraison, "La position et le rôle particulier de certains états dans le processus de protection du continent Antarctique – le cas spécifique de la France en sa double qualité d'Etat possessionnée et d'Etat conservationniste," *Revue Juridique de l'Environnement,* 1 (2005): 147-162.

The second reason is connected to the unprecedented growth of the global environmental movement throughout the 1970s and 1980s.[115] The Chernobyl disaster in the Soviet Union in 1986 heightened public environmental awareness worldwide, while controversy over French nuclear testing in the Pacific throughout the 1970s and 1980s, initiated global anti-nuclearisation movements, and prompted the development of the green social movement in France.[116] France and Australia were both also concerned by a series of major oil spills that occurred in polar waters in 1989.[117] These incidents provided a strong case for environmentalists by internationally publicising the significant risks associated with transporting oil across Polar waters.[118]

In conjunction with ASOC, eminent French explorer and scientist, Jacques-Yves Cousteau, assisted in raising environmental awareness, and influenced public opinion on CRAMRA internationally, via petition movements and extensive governmental lobbying.[119] While uncertainty surrounds the details pertaining to the extent of Cousteau's role (due to inconsistent accounts of

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[115] Riley E. Dunlap, "The Evolution of Environmental Sociology: A Brief History and Assessment of the American Experience," in *The International Handbook of Environmental Sociology*, ed. Michael Redclift and Graham Woodgate, 21-39 (Cheltenham: Edward Elgar Publishing, 1997): 29.

[116] Neil Carter, *The Politics of the Environment: Ideas, Activism, Policy*, 2nd Ed. (New York: Cambridge University Press, 2007), 102.

[117] Most prominent among these was when the *Exon Valdez* tanker hit a reef in Alaska, spilling eleven million US gallons (40 000m^2) of crude oil. A spill from the Argentine ship, *Bahia Paraiso,* off the Antarctic Peninsula also caused alarm when the ship ran aground and spilled some 600 metric tonnes of light fuel oil. Michel Rocard, "Opening Address," in "The Final Report of the Fifteenth Antarctic Treaty Consultative Meeting" (Paris, 9-20 October 1989): 123. See also, Francisco Vicuna, "The Regime of Antarctic Marine Living Resources," in *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System,* ed. Olav Stokke and Davor Vidas, 127-157 (Cambridge: Cambridge University Press, 1996): 174; and Joyner, "The Effectiveness of CRAMRA," 163.

[118] Bergin, "The Politics of Antarctic Minerals," 224.

[119] James Barnes, personal communication (10 July 2010, Bordeaux); Bergin, "The Politics of Antarctic Minerals," 227; Drew Hutton and Libby Connors, *A History of the Australian Environmental Movement* (Melbourne: Cambridge University Press, 1999), 196.

what took place at informal meetings between Prime Ministers Rocard, and Hawke, as well as Cousteau, and relevant Australian and French government officials throughout 1989), it is clear that Cousteau's participation in ASOC's campaign contributed to elevating the issue of Antarctic mining internationally. The French Bureau of the National Assembly commissioned the Parliamentary Office for the Evaluation of Scientific and Technologic Choices (OPESCT) to evaluate and report on the economic issues and ecological risks associated with Antarctic mining in 1989. According to former French Senator Christian Gaudin, the results of this report further cemented President Mitterrand's opposition (on Cousteau's further recommendation) to CRAMRA, in favour of devising a new comprehensive environmental protection agreement for the Antarctic.[120]

However, according to Prime Minister Hawke's advisor, Richard Woolcott,[121] while Cousteau 'endorsed the [nature reserve] idea in principle,' he did not rule out the possibility of environmentally safe mining at some point in the future. According to Prime Minister Hawke, Cousteau supported the concept of an Antarctic nature reserve, and agreed to an indefinite ban on mining, at an informal meeting in Paris on 18 June 1989. Prime Minister Hawke believed his collaboration with Cousteau fundamentally influenced Prime Minister Rocard's decision to oppose CRAMRA, and that the immense pressure exerted by the Cousteau Foundation on the French Government, prompted Prime Minister Rocard to reject the Convention publicly.[122]

A third explanation regarding France's decision to oppose CRAMRA relates more directly to French domestic political factors. Given the contention

[120] Gaudin, "French Polar Research," 9.
[121] Woolcott, "The Continuing International Importance of the Antarctic Treaty," 23.
[122] Ibid.

surrounding France's environmental credentials throughout the 1970s (due to nuclear testing in the Pacific, as well as the Dumont d'Urville airstrip saga),[123] and also throughout the 1980s (due to bombing of the Greenpeace vessel, *Rainbow Warrior,* in Auckland Harbour in July 1985 in an attempt to prevent anti-nuclear protesting), it is possible that in rejecting CRAMRA, France sought to improve its environmental image internationally.[124]

Elliott notes, that the new French Socialist Government (formed after the Socialists regained a majority in Parliament in June 1988) under President Mitterrand, presented solid environmental credentials, especially with the appointment of Brice Lalonde (a founder of *Les Amis de la Terre*) as Minister for the Environment.[125] According to Elliott, as 'one of the least conservationist of the Treaty parties,' France's decision to overturn CRAMRA was an attempt on behalf of the French Government to reduce the power of the green vote, and was therefore, couched more in domestic politics rather than environmental good will.[126] Supporting this theory, McCulloch adds that a desire 'to placate a growing environmental lobby,' also partly contributed to France's decision to refuse signing CRAMRA.[127]

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[123] In the late 1980s, international criticism led France to abandon construction of an airstrip near to Dumont d'Urville Station, due to its negative impact on the penguin rookeries also located at the site. See, Tina Tin et al., "Review: Impacts of local human activities on the Antarctic environment," *Antarctic Science*, 21:1 (2009): 14. Construction of the airstrip was also 'evidence of a breach' under of the Agreed Measures for the Conservation of Antarctic Fauna and Flora, Article 3.2.
See, Robert Boardman (ed.), *Global Regimes and Nation-States: Environmental Issues in Australian Politics* (Ontario: Carleton University Press, 1990): 83; Elliott, *International Environmental Politics*, 70; Peter J. Beck, "A New Polar Factor in International Relations," *The World Today*, 45 (1989): 66.

[124] Antoine Guichard, personal communication (8 April 2010, Hobart); Bergin, "The Politics of Antarctic Minerals," 226.

[125] Elliott, *International Environmental Politics,* 170.

[126] Ibid.

[127] McCulloch, "Protocol on Environmental Protection," 216.

– French-Australian cooperation on Antarctic environmental protection

By June 1989, both France and Australia were in agreement over their opposition to CRAMRA, with President Mitterand declaring that he was 'very taken with the idea of turning [Antarctica] into a vast peaceful nature reserve.'[128] Furthermore, President Mitterand confirmed that a report commissioned by Cousteau would be considered by the French government in order to gauge whether 'this idea can be put into effect without delay' with the support of those Consultative Parties sharing the same view.[129] At an informal meeting in May 1989, ATCP's agreed that the concept of a comprehensive environmental protection regime would be discussed at the next ATCM scheduled for October that year. Although some Consultative Parties acknowledged that the environmental protection measures set out in CRAMRA needed to be improved and extended, there was considerable disagreement on how this should be carried out, and there was an overall fundamental lack of support for the Australian-French proposal.

By the fifteenth ATCM in Paris in October 1989, the Australian-French proposal gained the first sign of international support, with India and Belgium indicating their commitment to develop an environmental protection regime. Elliott confirms that the ATCM agenda was 'dominated by environmental issues,' with recommendations covering such topics as marine pollution, waste disposal, environmental impact assessment procedures, and monitoring systems adopted.[130]

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[128] Statement from President Mitterand cited in Elliott, *International Environmental Politics,* 174.
[129] Ibid.
[130] Ibid, 179.

Encouraged by the growing international support for this initiative, France and Australia devised a joint paper, establishing a framework of the essential principles for an environmental protection protocol. From October 1989, an increasing number of Consultative Parties began to formally acknowledge that CRAMRA failed to consider the protection of the Antarctic environment adequately, and agreed to consider the possibility of developing an agreement that legally bound states to protect the Antarctic environment in the form of a protocol under the Antarctic Treaty. Nevertheless, many Consultative Parties remained unconvinced that a permanent mining ban should be enforced in Antarctica.

Continuing on from the international anti-CRAMRA campaign that had commenced in the late 1980s, Cousteau met with both the New Zealand Prime Minister, Geoffrey Palmer, and US President, George Bush, throughout 1990 in an effort to convince the two most vehement supporters of the minerals convention, of the merits of abandoning CRAMRA in favour of a new, environmental protection regime for Antarctica. Non-governmental representatives such as Cousteau, supported by ASOC, 'played an instrumental role in lobbying world leaders to accept the Australian and French proposals.'[131] However, uncertainty remains as to whether these meetings were instigated by the French Government in order to lobby for support of their initiative, or if it was solely an independent undertaking of Cousteau on behalf of the Cousteau Foundation, supported by ASOC.

[131] Ibid, 194.

(iii) France and the Madrid Protocol on Environmental Protection

Growing concern amongst ENGOs, green movements, the public, and Treaty Members such as France and Australia, had put the international spotlight on Antarctic environmental issues and priorities throughout the 1980s. By the end of the decade, the concept of developing comprehensive and specific environmental measures for the protection of the Antarctic environment began to be considered and discussed more widely within the Treaty system for the first time. This was accompanied by a rapidly increasing recognition amongst a wider group of ATCPs of the need to adopt relevant regulatory international instruments specifically for the protection of the Antarctic environment.

By this time, CRAMRA negotiations had concluded, with the Minerals Convention put aside by the ATCPs, making way for the commencement of negotiations for a separate agreement for the protection of the Antarctic environment. While ATCPs had previously tended to employ a 'limiting and coordinating' approach regarding their general management of the issues associated with the Antarctic environment, it became increasingly apparent that such 'ad hoc' methods of management were fundamentally inadequate.[132]

Following the demise of CRAMRA, France and Australia immediately placed the concept of an Antarctic environmental protection regime on the Consultative Party agenda, seeking to have their initiative 'adopted as an institutional goal' within the Antarctic regime.[133] Given the strong ongoing

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[132] Ibid.

[133] Elliott, *International Environmental Politics*, 172. See, France and Australia, "A Joint Australian/French Proposal," and "Franco-Australia Draft Working Paper on Possible

support for the minerals regime demonstrated by many of the most influential Contracting Parties,[134] and considering the hostility both Australia and France faced in their rejection of CRAMRA, following the eight years of 'complex, tedious, multilateral negotiations,' the capacity to gain consensus on a new environmental protection treaty that prohibited Antarctic mining, presented as a highly ambitious undertaking.[135]

The decision to conclude a new agreement dedicated exclusively to environmental protection principles, marked a pivotal turning point in political and legal Antarctic affairs. Australia and France's proposed alternative to CRAMRA constituted a comprehensive environmental protection regime for the Antarctic that was adopted in 1991 – just two years after Australia and France declared their opposition to CRAMRA.[136] Elliott states that the Australian-French initiative involved a reorganisation of the hierarchy of values encompassed within the ATS, due to the placement of environmental concerns above and before political and economic considerations.[137] The initiative put forward by Australia and France comprised three key provisions. First, that Antarctic mineral activity should be completely prohibited; second, that Antarctica be designated as a nature reserve; and third, that in order to achieve comprehensive environmental protection for the Antarctic, a new convention was needed.[138]

Components for a Comprehensive Convention for the Preservation and Protection of Antarctica," *WP 3*, ATCM XV (Paris, 1989).

[134] Joyner, "The Effectiveness of CRAMRA," 153.

[135] Ibid.

[136] Rocard, "Opening Address," 123. See also, Marie Françoise Labouz, "Les politiques juridiques de l'environnement Antarctique, de la Convention de Wellington au Protocole de Madrid," *Revue Belge de Droit International*, 25 (Bruxelles : Editions Bruylant, 1992): 44-66.

[137] Elliott, *International Environmental Politics*, 173.

[138] Ibid, 174. See, France and Australia, "Draft Working Paper on Possible Components for a Comprehensive Convention for the Preservation and Protection of Antarctica," *WP 3*, ATCM XV (Paris, 1989); Australia and France, "Joint Proposal in the form of a Paper including a Draft Recommendation for ATCM XV – Comprehensive Measures for the Protection of the

At a Special Consultative Meeting held in late 1990, Consultative Parties continued discussions and elaborated on the development of an environmental protection regime for Antarctica. Following on from this meeting, Australia and France remained strongly committed to developing a new environmental regime, and continued to lobby unconvinced Consultative Parties of the merits of their joint initiative. Elliott confirms that both the French and Australian Prime Ministers 'took up the issue as a personal crusade'[139] – clearly indicating the high level of importance environmental protection of Antarctica received at the national level of both these ATCPs.

The ATCPs commenced negotiations for an agreement that would comprehensively protect the Antarctic environment in November 1990.[140] The first meeting of Parties was convened between 19 November and 6 December 1990, in Vina del Mar, Chile. Redgwell concludes that the outcome of this meeting was largely 'inconclusive,' as while eight ATCPs were in favour of a total prohibition on the possibility of future Antarctic mining, the remaining eighteen ATCPs did not support this view.[141] Elliott notes that with negotiating sessions dedicated solely to environmental issues, a significant change of direction in the ATS (from predominating economic and political factors to environmental ones) had clearly occurred.[142] A 'pro-environmental caucus' rapidly developed within the Treaty system with Belgium and Italy aligning with Australia and France, constituting a 'group

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Antarctic Environment and its Dependent and Associated Ecosystems," *WP 2,* ATCM XV (Paris, 1989).

[139] Elliott, *International Environmental Politics,* 182.

[140] Bergin, "The Politics of Antarctic Minerals," 218. See also, Florian Aumond, "La convergence antarctique – radioscopie de l'actuel consensus concernant la gestion du continent blanc," *Journal du Droit International*, 136.4 (2009): 1213-1236.

[141] Catherine Redgwell, "Antarctica," *The International and Comparative Law Quarterly,* 40 (1991): 976-981.

[142] Elliott, *International Environmental Politics,* 187.

of Four' by the second negotiating session held in Madrid from 22 to 30 April 1990. The Four were soon joined by a further ten Parties in favour of negotiating an environmental protocol.[143]

Norwegian diplomat, Rolf Trolle Andersen, attempted to address the remaining disagreement between states over the fundamental provisions of a potential environmental regime – notably the highly contentious question of a prohibition on mining, by producing a draft text in consultation with other delegations. Twelve states met in Paris in January 1991 to examine the merits of Andersen's draft, before reconvening in Rome in late March to finalise any changes. Having failed to reach an agreement regarding not only the question of mining, but also on key issues such as the establishment of an environmental committee, impact assessment procedures, and liability measures, discussions concerning the development of an environmental regime were reconvened in Madrid throughout April, May and June 1991.

Environmental concerns and values would be 'important determinants of the regime.'[144] The need to reach a compromise between Parties advocating a permanent prohibition on Antarctic minerals activity, and states still committed to CRAMRA, led to the development of a fifty year moratorium on Antarctic mineral resource activity, with the option to review the prohibition at the end of that period.[145] Under Article 7 of the Protocol, all mineral resource activity (excluding scientific research) is prohibited, with the moratorium review option – stating the circumstances under which the prohibition may be reviewed or terminated, provided for under Article 25.[146]

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[143] Ibid.
[144] Elliott, *International Environmental Politics,* 196.
[145] Redgwell, "Antarctica," 977.
[146] Ibid, 979.

Finalising a draft text produced at the 1990 meeting in Chile, ATCPs formally adopted the Protocol on Environmental Protection in Madrid on 4 October 1991,[147] with the Protocol remaining open for signature until 3 October 1992. The capacity of the ATCPs to achieve a compromise on the Minerals regime, may to a certain extent, be associated with the increase in global environmental awareness that led to a widespread realisation of the importance of environmental protection and conservation. Joyner notes that what had been perceived to be major environmental flaws, and 'procedural deficiencies' within CRAMRA, were effectively converted to 'substantive strengths' with the establishment of the Protocol.[148]

– *The Madrid Protocol on Environmental Protection*

Specific environmental protection principles for Antarctica were only formally 'codified' within the Antarctic Treaty by the 1991 Madrid Protocol on Environmental Protection.[149] This signified a major turning point in Antarctic affairs, and more specifically, marked a monumental shift in the direction of Antarctic environmental policy. Despite significant initial reservations amongst some Parties, ATCPs shifted focus away from the prospect of mineral exploitation, in favour of institutionalising environmental protection principles for the Antarctic under a legally binding agreement.[150]

An environmental regime 'enshrined' in the Protocol – signified a 'landmark evolution' within the ATS, as the progression towards the negotiation of an environmental agreement marked a definitive shift in the attitudes and

[147] Ibid, 977.
[148] Joyner, "The Effectiveness of CRAMRA," 172.
[149] Stokke and Vidas, "Introduction," 3; Deliancourt, "Les mesures de protection," 25-37.
[150] Puissochet, "Le Protocole au Traité sur l'Antarctique."

mindsets of ATCPs – a move away from an interest in potential future Antarctic mineral resource exploitation, to a staunch position regarding the protection of the environment,[151] and a reaffirmation of Antarctica as a nature reserve dedicated to peace and science.[152] After only four negotiating sessions conducted over a twelve-month period, ATCPs accepted the French-Australian proposal, and signed the Madrid Protocol[153] on Environmental Protection in 1991. Its entry into force in 1998, confirmed the redundancy of CRAMRA for the foreseeable future.

The Madrid Protocol is widely considered to be an invaluable addition to the legal backbone of the entire system as it is the first instrument to be 'exclusively devoted' to the protection of the Antarctic environment,[154] and significantly extends and strengthens the environmental protection principles that had been developed under CRAMRA.[155] Most significantly, the Protocol places 'an indefinite ban on all activities relating to [Antarctic] mining with a review after fifty years.'[156] This prohibition on 'any activity relating to mineral resources' represented an 'open contradiction' to the

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[151] Ibid.
[152] Vicuna, "The Protocol on Environmental Protection," 1-13.
[153] The term 'protocol' is synonymously used to describe a treaty accord between states, and is employed more specifically to designate an accord that builds on or completes a preceding accord. See, Guinchard and Debard, *Lexique – les termes juridiques,* 651.
[154] Pineschi, "The Madrid Protocol," 250.
[155] Joyner, "The Effectiveness of CRAMRA," 166.
[156] Up until 2048, the Protocol may be amended by a consensus agreement of all consultative parties. After this time, a conference may be convened in order to review the provision of the Protocol as well as the mining prohibition. The prohibition on mineral resource activities cannot be removed unless a binding legal regime on Antarctic mineral resource activities is in force. See, Hutton and Connors, *A History of the Australian Environmental Movement,* 196; André Oraison, "Nouvelles réflexions sur le statut protecteur du continent Antarctique et des eaux avoisinantes: Le bilan de 1959 à 2005 et les nouveaux défis à relever," *Revue de Droit International, de Sciences Diplomatiques et Politiques,* 83 (2005): 37-77.

agreement that had been concluded by ATCPs two years prior,[157] and clearly demonstrated how far ATCPs had advanced in their environmental thinking.

The Madrid Protocol (including six annexes)[158] constitutes an integral part of the ATS. It provides a comprehensive environmental protection framework,[159] by establishing and consolidating environmental measures into a single agreement under the Antarctic Treaty.[160] Fundamentally, the Protocol establishes the precautionary principle that stipulates that activities 'likely to cause irreversible damage to the environment shall be avoided.'[161]

As with the other supplementary instruments developed under the ATS, the Madrid Protocol extends the concept of international cooperation in the Antarctic to include not only scientific investigation, but also environmental protection. Article 6(1a) of the Protocol specifically relates to cooperation – stating that, 'Parties shall co-operate in the planning and conduct of activities in the Antarctic Treaty area,' and 'shall endeavor to promote cooperative programmes of scientific, technical and educational value concerning the protection of the Antarctic environment.'[162] This also includes the provision

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[157] Laura Pineschi, "Antarctica," in *World Treaties for the Protection of the Environment*, ed. Tullio Scovazzi, Tullio Treves, and Andrea Bianchi, 249-258 (Milan: Insituto Per L'Ambiente, 1992): 250.

[158] The Protocol includes six legally binding Annexes governing: (Annex I) Environmental Impact Assessment procedures, (Annex II) the conservation of Antarctic fauna and flora, (Annex III) waste management and disposal, (Annex IV) marine pollution, (Annex V) area protection and management, and (Annex VI) liability arising from environmental emergencies. See, M. Philippe Gautier, "L'Annexe VI au Protocole de Madrid rélatif à la protection de l'environnement de l'Antarctique – responsabilité découlant de situations critiques pour l'environnement," *Annuaire Français de Droit International*, 52 (2006): 418-431.

[159] Article 2 declares members responsible for the "comprehensive protection of the Antarctic environment and dependent and associated ecosystems," designating the continent a "natural reserve, devoted to peace and science."

[160] Joyner, "The Effectiveness of CRAMRA," 167.

[161] Ibid. See, United Nations General Assembly Resolution 37/7 (28 October 1982), "World Charter for Nature," Principle 11(a).

[162] Madrid Protocol, Article 6(1a).

of assistance to other Parties in the carrying out of Environmental Impact Assessments (EIAs), the provision of information in relation to potential environmental risks, and consultation regarding the selection of sites for use. Parties are also encouraged to undertake joint expeditions and share stations, facilities, and infrastructure where possible.

The Protocol, established in Article 11, and defined in Article 12, the Committee on Environmental Protection (CEP) – an institutional body intended to provide advice and recommendations to the ATCPs at Antarctic Treaty Consultative Meetings.[163] Comprised of Treaty Members that are also signatories to the Protocol, the CEP provides for a variety of environmental mechanisms, with major issues to date including: EIAs, area protection and management (including specially managed and protected areas, and also historic sites), environmental monitoring and reporting, as well as annexes on waste management, the prevention of marine pollution, the conservation of flora and fauna (including review of Annex II of the Protocol),[164] and prevention of the introduction of non-native species (NNS).

France plays an active role in the CEP, and has made highly valuable contributions on a number of the abovementioned issue areas – specifically, marine spacial planning, cumulative impacts of human activities, tourism regulation, environmental monitoring and impact assessment, liability, measures to limit the introduction of NNS, and review of Annex II of the Environmental Protocol. France's cooperative role within the CEP is discussed in further detail in chapter six of this thesis.

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[163] Richard Rowe, "Antarctic Treaty: Past, Present and Future," in *The Antarctic: Past, Present and Future,* ed. Julia Jabour-Green and Marcus Haward, 7-17 (Hobart: Law, Policy, and International Relations sub-Program, Antarctic Cooperative Research Centre, 2002): 12.
[164] Annex II of the Madrid Protocol relates to the conservation of Antarctic fauna and flora.

In 2011, France reaffirmed its strong commitment to the Antarctic Treaty, with former French Foreign Affairs Minister, Alain Juppé, highlighting the importance of continuing to encourage collaboration with Australia within the ATS – particularly in light of the successful cooperation undertaken by France and Australia in the development of the Madrid Protocol. In a joint statement, former Minister Juppé, and former Australian Foreign Affairs Minister, Kevin Rudd, encouraged the Antarctic Treaty Parties that had not as yet acceded to the Protocol to do so in order to enhance the environmental protection of the continent.[165]

This statement acted as a precursor to the 'Declaration on Antarctic Cooperation on the Occasion of the 50th Anniversary of the Entry into Force of the Antarctic Treaty' (the Declaration) – presented by France in conjunction with Australia and Spain, and adopted by Parties at ATCM XXXIV held in Buenos Aires in 2011. The Declaration intended not only to mark the occasion of the fiftieth anniversary of the entry into force of the Antarctic Treaty, but also reinforce the importance of the Madrid Protocol on the twentieth anniversary of its signing, by appealing to those nations that are Antarctic Treaty Parties but have not as yet signed the Protocol, to accede to the Protocol as soon as possible.[166] A working paper entitled, 'Strengthening Support for the Madrid Protocol,' submitted by France, Australia, and Spain to ATCM XXXIV directly encouraged these Parties to

[165] DFAT, "Australia-France Joint Statement," *media release* (11 September 2011, Canberra), http://www.foreignminister.gov.au/releases/2011/kr_mr_110911.html

[166] ATCM XXXIV-CEP XIV, "Declaration on Antarctic Cooperation on the Occasion of the 50th Anniversary of the Entry into Force of the Antarctic Treaty," Appendix 1 of "The Final Report of the Thirty-fourth Antarctic Treaty Consultative Meeting – Fourteenth Committee on Environmental Protection Meeting" (Buenos Aires, 2011): 177; Australia, France, Spain, "Strengthening Support for the Protocol on Environmental Protection to the Antarctic Treaty," *WP 31*, ATCM XXXV-CEP XV (Hobart, 2012): 3.

commit to the accession to the Protocol.[167] As a result, Parties reached consensus on a resolution that charged France, Australia, and Spain with the role of coordinating representations to those Parties that remained to accede to the Protocol.[168]

At the most recent ATCM held in Hobart, Australia in 2012, France, Australia and Spain reported to the ATCM on the outcome of their collaboration in conducting 'representations' on this matter throughout the intersessional period, and put forward a draft resolution. Clearly, the cooperative role played by both France and Australia in initiating and negotiating the Protocol (on France's side, this involved intense lobbying, campaigning and persuading among not only the European states, but also with the US and New Zealand), remains significantly important not only to France and Australia, but also an important determinant factor in the evolution of the ATS.

France the ATS – a contemporary perspective

Over the last five decades, the Antarctic Treaty has undergone a remarkable evolution.[169] At the time the Treaty was negotiated, the question of resource conservation and management was not the primary motivation for developing an Antarctic regime. Political interests constituted the principal driving factor at that time – notably, in relation to the need to dispel the

[167] Australia, France, and Spain, "Strengthening Support for the Madrid Protocol," *WP 40,* ATCM XXXIV-CEP XIV (Buenos Aires, 2011).
[168] Rowe, "What will the Next 75 Years Bring?" 123.
[169] Francesco Francioni, "La conservation et la gestion des ressources de l'Antarctique," *Recueil des cours – composition du curatorium de l'Academie de droit interntational de la Haye,* Tome 260 (The Hague: Martinus Nijhoff Publishers, 1996): 249.

sovereignty and territorial concerns of the claimant nations, and to secure non-militarisation of the region throughout the Cold War period.[170]

As an international regime, the Treaty system has been forced to adapt and evolve in order to survive the complexities and challenges of the contemporary international system – a system increasingly characterised by rising political, economic and environmental pressures and constraints. More than fifty years on, the Treaty (and its associated instruments) has proven it is neither immune to, nor incapable of change and adaptation, as it continues to provide an appropriate and robust management system for the Antarctic.

Guyer draws attention to two fundamental aspects of the 'Antarctic case' that result in an 'inevitable confrontation between legal norms...and the possibility of their full application' in Antarctica.[171] First, the development of permanent national interests in the region culminating in the negotiation of the Antarctic Treaty; and second, the fact that the application of the rules of international law are challenging to apply in Antarctica – owing to the fact that it is not a permanently populated region (a criteria of which is generally true concerning cases that fall within the domain of international law).[172]

As the Treaty continues to evolve and develop throughout the rapidly changing twenty-first century, ATCPs are increasingly under pressure to ensure they stay at the forefront of political and legal affairs in Antarctica. If the Treaty is to remain the key management mechanism for Antarctica's future, ATCPs must ensure that it continues to adapt to changes in the

[170] Ibid, 254.
[171] Guyer, "The Antarctic System," 154.
[172] Ibid.

international political system, and address new and emerging issues both effectively and efficiently. Given that 'multilateral regimes inherently involve cooperation,'[173] and in order to best represent the wider interests of the Antarctic, it remains the critical responsibility of the ATCPs to ensure that the Treaty remains forward thinking, adaptive and responsive – in essence, proactive in its approach to the management of Antarctica, rather than reactive.

As the international Antarctic 'agenda' continues to expand, and as the region continues to face new and complex challenges, ATCPs (particularly those that have well-established and extensive experience in the region such as France), are especially aware of the need to remain engaged in, and indeed, at the forefront of Antarctic affairs. In doing so however, ATCPs, intending to also secure their own key interests in the region, must equally factor in the need to ensure that the wider interests of the region are also met. This balancing act of interests is no easy feat, and it is a challenge ATCPs have continued to grapple with since the signing of the Treaty in 1959.

Nevertheless, a number of important factors that have influenced the behaviour and approaches of a number of ATCPs have come into play over the last two decades – most notably, the enshrining of environmental principles for Antarctica under the Madrid Protocol in the early 1990s. This institutional development has initiated increased international cooperation between ATCPs in order to ensure that the wider environmental interests of Antarctica are placed above and before purely national interests.

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[173] Abram Chayes and Antonia Chayes, *The New Sovereignty – Compliance with International Regulatory Agreements* (Cambridge: Harvard University Press, 1998), 192.

France demonstrates a strong capacity to balance these demands by continuing to play an important role in upholding the integrity of the Treaty and its associated instruments, and of ensuring that forward progress on the fundamental contemporary issues facing the future of the Antarctic is made through the pursuit of robust discussion and sound decision making within the key forums of the ATS. France's behaviour within the ATS can be characterised as influential, committed, and cooperative. Nevertheless, as pointed out in this chapter, France reserves the right to assert its national interests when it perceives those interests to be fundamentally at stake – and has acted accordingly in order to preserve its interests on a number of occasions. It must be noted, however, that France recognises, and strongly upholds the significant value of the Antarctic Treaty, and on the occasions it has chosen to assert its interests, it has done so within, and with respect to the framework of the Treaty.[174]

This chapter intended to achieve two main objectives – first, to provide a brief historical synopsis of France's Antarctic legacy, in order to grant political and legal context to France's Antarctic agenda; and second, to provide an overview of the key institutions encompassed within the ATS – with particular focus on France's involvement within these institutional forums. Chapter Three will explain France's domestic political and legal organisation in relation to the Antarctic and Southern Ocean region in light of the broader contemporary international political context in the region.

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[174] France and Australia worked together in opposition to CRAMRA. While some ATCPs considered this action to be an attack on the overall integrity of the ATS, France and Australia argued that their decision was in no way intended to undermine the ATS, but rather built upon, and enhanced the existing institutional capacity of the system to deal with environmental issues. See, Richard Herr, Robert Hall and Marcus Haward, "Introduction – Antarctica's Future: Symbols and Reality," in *Antarctica's Future: Continuity and Change*, ed. Richard A. Herr, Robert H. Hall and Marcus G. Haward, (Hobart: Australian Institute of International Affairs, 1990): 15. See also, France and Australia, "A Joint Australia/French Proposal," 3-4.

3. France and international cooperation in Antarctica

While the preceding chapter provided a broad overview of France's role within the Antarctic Treaty System (ATS), this chapter specifically focuses on current trends in France's Antarctic engagement. Particular attention is granted to considering France's increasing emphasis on international cooperation within the ATS. The first section provides a brief synopsis of contemporary Antarctic politics, in order to contextualise the international environment in which France operates. In the second section, attention is turned to considering France's domestic organisation and management of its political Antarctic interests and agenda. While part of this chapter is couched at the national level, the analytical focus in the second section is concerned with France's international engagement.

Contextualising contemporary Antarctic politics

Recent decades have witnessed an exponential rise in global environmental problems.[1] Although these problems have been traditionally treated as domestic affairs by national governments, the increasingly trans-boundary or interdependent nature of global environmental issues, has resulted in them being incorporated into the international agenda.[2] The rise in international 'environmental interdependence' has made it problematic for states to remain 'insulated' from global environmental problems as they have been

[1] Denise K. DeGarmo, *International Environmental Treaties and State Behaviour – Factors Influencing Cooperation* (New York: Routledge, 2005), 4.
[2] The 1992 United Nations Conference on the Environment and Development (UNCED) granted official international recognition to the trans-boundary and interdependent nature of environmental problems for the first time. See, Oran Young, *The Effectiveness of International Environmental Regimes – Causal Connections and Behavioral Mechanisms* (Mass: Massachusetts Institute of Technology, 1999), 140.

traditionally.[3] This is due to the fact that not only are states increasingly incapable of protecting themselves from the consequences of global environmental problems, they are also incapable of effectively resolving them without the involvement of the wider international community as a whole.

The last two decades have witnessed a rise in the cooperative activities taking place in Antarctica. Importantly, this indicates that Parties are prioritising the wider concerns about Antarctica, and thereby reiterating a core value of the ATS. For example, while not all Parties have established their own national Antarctic stations, some do operate Antarctic programs by sharing the infrastructure of other nations. This type of cooperation is critically important – as not only does it enable wider participation, reduce costs, and enhance the exchange of information, knowledge and expertise, it also limits the impacts on the Antarctic environment.

As outlined in Chapter One, relationships between states have become increasingly 'embedded' in 'networks of interdependence.'[4] In attempting to understand how states adapt to this increased level of interdependence within the Antarctic context, it is necessary to first identify and consider the reasons behind why this phenomenon is occurring. A number of key contributing factors are evident and provide some valid explanations.

First, at a general level, the nature of the global political system has undergone significant change in recent decades. This has been characterised by a notable rise in the number of complex and trans-boundary

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[3] See, DeGarmo, *International Environmental Treaties and State Behaviour;* and Srini Sitaraman, *State Participation in International Treaty Regimes* (Surrey: Ashgate Publishing, 2009).
[4] Robert Keohane, and Joseph Nye, *Power and Interdependence* (New York: Longman Publishing, 2001).

environmental issues at the global level, coupled with a growing recognition among states of the need to address these problems collectively. Since the ability to achieve collective outcomes relies on interdependent decision-making, enhanced levels of cooperative engagement between states has become essential. In regard to environmental matters, states are increasingly pursuing complex, and coordinated strategies, and mechanisms of international cooperation through multilateral international regimes, thereby widening the scope of their involvement in a given issue area. This facilitates the ability of states to address issues collectively, and may also contribute towards enhancing their capacity to protect their key national interests.

Despite its geographical isolation, Antarctica is not immune from the wider changes taking place in the global political environment. The geopolitical dynamics of Antarctic affairs are also changing – international interest in Antarctica is on the rise, with an increasing number of nations either intending to, or already in the process of establishing themselves on the continent, on either a temporary or permanent basis. Presently, there are thirty-seven permanent year-round stations on the continent, operated by twenty nations.[5] For claimant states in particular, this raises several major concerns – most notably, those relating to sovereignty, resource rights, and environmental management issues. This has potential implications for how claimant states, such as France, manage, articulate and undertake their Antarctic interests and agenda. France is therefore especially conscious of the need to strengthen its existing position, in order to remain at the forefront of Antarctic affairs.[6]

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[5] P.G. Dastidar and O. Persson, "Mapping the global structure of the Antarctic research vis à vis the Antarctic Treaty System," *Current Science,* 89 (2005): 1552.

[6] Christian Gaudin, "French Polar Research, Report on France's Position with Regard to the International Issues Surrounding Polar Research: The case of Antarctica," *OPESCT,* 230

While the last decade has witnessed a rapid and steady increase in the number of states engaging in activities in the Antarctic region, an overall rise in levels of international cooperative engagement (particularly in relation to scientific research, and on matters relating to environmental protection and management) is also clearly evident.

France and Antarctica: interests and objectives

As has been outlined in the preceding chapter, as a claimant to Antarctic and sub-Antarctic territories, and as an original signatory to the Antarctic Treaty, France maintains significant interests in the Antarctic region, and pursues several key priorities concerning its participation in the ATS. The nature of these interests can be broadly characterised as political, economic, scientific and environmental. Fundamental to the enhancement of France's political and strategic interests, is its commitment to the preservation of its territorial sovereignty on the continent, as well as in the sub-Antarctic region. Although French sovereignty over its island territories has never been disputed by any nation, France reaffirms its territorial rights by maintaining bases on each of the islands, and undertakes comprehensive surveillance of its Exclusive Economic Zones (EEZs).

Implicated with France's sovereignty concerns, and also considered to be of political and strategic importance to France, is its desire to enhance Europe's Antarctic presence. As a dominant European power, promoting a European polar dimension significantly strengthens France's regional position, and

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(Paris: Parliamentary Office for the Evaluation of Scientific and Technologic Choices, 2006-2007): 6.

improves its capacity to remain actively engaged in Antarctic affairs.[7] In this regard, France encourages the development of enhanced European engagement in the Antarctic, and perceives international cooperation to be essential to the realisation of this goal.

With international scientific prestige closely linked to both credibility and influence within the ATS,[8] and as a Party with significant scientific interests and investments in the Antarctic, France places strong emphasis on pursuing excellence in Antarctic science, and seeks to remain an international leader in research domains. It does so through maintaining an active and influential role in the key institutions of the ATS.[9]

Inextricably linked to the role of science, is the fact that contemporary environmental issues and debates are increasingly politicised, discussed and debated at the 'highest political levels' internationally, thereby infiltrating and influencing both national and international policy agendas.[10] Consequently, it is vital for states (particularly those with significant interests and investments in the Antarctic) to be conscious of, and to incorporate environmental concerns into their national Antarctic agendas, policy priorities and decision-making processes.

The capacity of Parties to undertake scientific research activities in order to address serious environmental issues, and contribute to extending knowledge on Antarctica, is dependent upon not only the preservation of the environmental integrity of the region, but also on the will, and capacity of

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[7] Ibid.
[8] See Richard A. Herr and Robert H. Hall, "Science as Currency and the Currency of Science," in *Antarctica: Policies and Policy Development*, ed. John Handmer, 13-23 (Canberra: Centre for Resource and Environmental Studies, Australian National University, 1989).
[9] Ibid, 1.
[10] Christo Pimpirev, "Editorial," *European Polar Board Newsletter*, 4 (2010): 1.

states involved in Antarctic affairs (particularly Contracting Parties), to cooperate toward the achievement of this common goal. France considers the protection of the Antarctic environment as a 'matter of global relevance,' and places significant emphasis on addressing issues relating to environmental protection.[11]

While these broad categories of interests discussed in the above section provide a general indication regarding some of the key determinant drivers of France's Antarctic agenda, and assist France in achieving its specific objectives in the region, it is important to note that these categories are neither exhaustive, nor mutually exclusive, but rather, frequently occur in varying combinations, overlap, and interchange in terms of scale and level of importance over time. This in turn is dependant upon both internal or domestic changes and effects occurring within France, as well as external factors, taking place both within regional and international contexts.

France's Antarctic Organisation

Consideration of the organisation and management of France's Antarctic agenda can be divided into three key areas of analysis: first, the organisation of France's Antarctic policy at the national level; second, the management of its key Antarctic interests within the regional policy framework of the European Union (EU); and third, its behaviour at the international level through engagement with the ATS and its associated instruments.

It is important to note that France's national management systems relating to its Antarctic territory, and the way in which it coordinates policies, shapes its

[11] Laura Pineschi, "Antarctica," in *World Treaties for the Protection of the Environment*, ed. Tullio Scovazzi and Tullio Treves, 249-258 (Milan: Instituto Per l'Ambiente, 1992): 250.

behaviour within both multilevel regional, and also international contexts. In the case of France's participation in Antarctica, this occurs both regionally within the EU, as well as at the international level, within the framework provisions of the ATS. As pointed out by Young, internal decision making processes undertaken by members of international society frequently have the capacity to influence the extent and nature of cooperation within international regimes.[12] As a result, national agencies, institutions, and government departments, through engaging with their foreign counterparts and partners, in a sense, contribute to outcomes occurring at the international level, and 'come to define their roles, at least in part, in terms of administering and maintaining the provisions of one or more international regimes.'[13] Young highlights that this is clearly the case in relation to foreign ministries, 'which regularly become defenders of an array of institutional arrangements.'[14]

Importantly, while these internal institutions do not constitute 'actors in their own right, capable of directing the behaviour of the members of international society on an intentional basis,' they remain to some extent, significant determinants of behaviour at the domestic level,'[15] with the capacity to impose 'major constraints on the behaviour of individual actors,' and to 'determine a substantial portion of the variance in collective outcomes within

[12] Oran Young, *International Cooperation: Building Regimes for Natural Resources and the Environment* (New York: Cornell University Press, 1989), 77.
[13] Ibid. It is important to note that there are a number of different French institutions and agencies that contribute to the management of France's Antarctic affairs (these cover policies and management activities relating to science and logistics, as well as political and legal matters). Given that different interests are more prevalent or pressing than others at certain times, different national institutions and agencies contribute to shaping France's Antarctic agenda.
[14] Ibid.
[15] Ibid, 79-80.

all social systems.'[16] Furthermore, as Szarka notes, in France, a significantly high 'number of actors and agencies are involved in the management of the natural environment.'[17]

(i) France's National Antarctic Organisation

At the domestic level, France's Antarctic and sub-Antarctic interests and activities are primarily managed by two key agencies: in a practical or operational sense, the French Polar Institute (*Institut Paul Emile Victor* – the *IPEV*), and from an administrative and management sense, the French Southern and Antarctic Lands (*les Terres australes et antarctiques françaises* – the *TAAF*). Both these institutions operate in conjunction with the Ministry of Foreign Affairs, the Ministry of the Environment, and the Ministry for Ecology and Sustainable Development. Nevertheless, it is the Foreign Ministry, through its sub-division of the Law of the Sea, and the Legal Division of Fisheries and Antarctica, that maintains 'jurisdiction over any issue related to Antarctica.'[18]

- L'Institut polaire français Paul Emile Victor (IPEV)

Described as 'the legatee of [France's] polar skills and know how,' *l'Institut Polaire Français Paul Emile Victor* (the *IPEV)* is France's national polar agency.[19] On behalf of the French Government, it is charged with the

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[16] Ibid.
[17] Joseph Szarka, *The Shaping of Environmental Policy in France* (New York: Berghahn Books, 2002), 124; Chavelli Sulikowski, "The French Connection: The Role of France in the Antarctic Treaty System," in *The Emerging Politics of Antarctica,* ed. Anne-Marie Brady, 163-190 (Abingdon: Routledge, 2013).
[18] France, "Antarctic environment protection under French law," *IP 13,* ATCM XXX (New Delhi, 2007): 9.
[19] ARENA, "Polar Large Telescope Proposal Part B - PLT FP7 Design Study, Proposal Part B," Doc. No: PLT-PRP-RCM-00000-0001, 1 (November 2010): 66.

selection, implementation and strategic management of France's scientific and technical research programs in the polar regions, as well as in the French sub-Antarctic territories. In this regard, the *IPEV* provides the administrative framework upon which to base the provision of personnel and logistics, as well as technical and financial support, necessary for the realisation of France's polar, and sub-Antarctic agendas.[20]

Established in 1992, the *IPEV* is comprised of nine public, or para-public bodies (of which the Ministry of Research, the Ministry of Foreign Affairs, the *TAAF* and *le Centre national de la recherche scientifique (CNRS)*,[21] have the most instrumental roles).[22] The Ministry for Higher Education and Research provides an essential component of the *IPEV's* budget. Ninety percent of the *IPEV's* approximate twenty-eight million euro budget is allocated to scientific interests, including the provision of technology, logistics, equipment and infrastructure (this also includes non-polar affairs, such as the chartering of the *Marion du Fresne* oceanographic vessel to other regions). Nine and a half million euros of the *IPEV* budget is dedicated to Antarctic affairs.[23] The *CNRS* provides approximately two thirds of the one hundred permanent staff employed by the *IPEV*. Additionally, in order to provide further technological assistance, a number of temporary contractual staff, as well as civilian volunteers, are recruited by the *IPEV* on an annual basis during the summer and winter campaigns.

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[20] Ibid.

[21] The National Center for Scientific Research was founded by governmental decree in 1939, and is a government funded organisation administered by the French Ministry of Research.

[22] Previously the *Institut Français pour la recherche et la technologie polaires* (the *IFRTP*), the *IPEV* was first established in 1992, following the merging of the research missions of the *TAAF,* and *Les Expéditions Polaires Françaises* (the *EPF*). In addition to these bodies, the *IPEV* is comprised of *l'Institut français de recherche pour l'exploitation de la mer (Ifremer), le Commissariat à l'énergie atomique (CEA), Météo-France, le Centre national d'études spaciales (CNES),* and the *EPF*. See, Gaudin, "French Polar research," 6.

[23] When including the salaries of permanent *IPEV* personnel, this figure is closer to 10.3 million euros.

Following a call for the submission of multi-discipline scientific research proposals, the *IPEV* provides financial support for an average of sixty-five scientific programs annually. Proposals are assessed by the *Conseil des programmes scientifiques et technologiques (CPST),* on the basis of both scientific merit and feasibility.[24] Importantly, both national and international collaboration now provides a key component of the assessment criteria for proposals submitted to the *IPEV* for consideration.[25] This has seen the cooperative role of the *IPEV* extend further in recent years, to include support and coordination of more regional and international scientific and technological programs.

The *IPEV* supports and implements projects within a wide range of scientific disciplines, including, astronomy and astrophysics, geophysics and geology, atmospheric science, glaciology and climatology, oceanography, life and environment and human sciences. In submitting a proposal to the *IPEV* for consideration, researchers must demonstrate that they have secured funding through either their own, or another institute.[26] Successful proposals receive logistical support necessary for the realisation of the project, as well as placement from the *IPEV*, and some level of support for consumables. Projects are subject to intermittent review as progress is made.[27]

Research missions to the Antarctic, the Arctic, as well as the sub-Antarctic regions are organised through the *IPEV*, which is responsible for maintaining a total of six scientific bases in these regions – one in the Arctic, two in the

[24] For more information on the *IPEV* and its current research priorities, see, www.institut-polaire.fr/.
[25] Michael Stoddart, personal communication (6 October 2011, Hobart).
[26] Yves Frenot, personal communication (19 May 2011, Brest).
[27] Ibid.

Antarctic and three in the sub-Antarctic. The *IPEV* is also responsible for the provision of logistics and infrastructure, and the chartering of the French polar vessels, the *Astrolabe*, the *Marion du Fresne,* and *la Curieuse*.

At the regional level, the *IPEV* participates in the European Polar Board (EPB) – Europe's strategic advisory body on polar science policy.[28] The *IPEV* also engages bilaterally and multilaterally with other national European polar agencies and institutes. For example, the *IPEV*, along with its Italian counterparts, the *Programma Nazionale di Richerche in Antartide (PNRA),* contributed significantly to the provision and coordination of logistical support required for the multilateral European Project for Ice Coring in Antarctica (EPICA).

Despite some periods of difficulty, the *IPEV* has affirmed its already well-recognised, and esteemed position at the international level. It has done so by assisting the scientific community in responding to a number of collective challenges and issues confronting the current Antarctic science agenda,[29] and through increasingly cooperating with a number of its foreign counterparts on various polar science projects.

[28] Established in 1995, the EPB constitutes the European Science Foundation's (ESF) strategic advisory committee on science policy to the polar regions. Comprised of nineteen European Union countries (including the Russian Federation), the EPB enables coordinated European engagement in polar science programs at both the regional and international levels, and provides advice and recommendations to the European Commission, as well as relevant international bodies.

[29] Gérard Jugie (ed.), "Edito," *Rapport d'Activité 2008* (Brest: the *IPEV*, 2008): 8-13.

- Les Terres australes et antarctiques françaises (TAAF)

Established under French statutory law in 1955, *les Terres australes et antarctiques françaises* (the *TAAF*) is an overseas territory[30] of France that is independently administered by a *Préfet*[31] based at headquarters on Reunion Island.[32] Since constitutional reform in 2003, the scope of the *TAAF's*[33] responsibility has been increased to include several key institutional and statutory provisions relevant to overseas territories.[34] It is responsible for the administration and management of the sub-Antarctic island territories of Kerguelen, Crozet, Saint Paul and Amsterdam,[35] as well as Adelie Land, and the *Îles Éparses*.[36] Covering 700 000 hectares, and comprising France's largest

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[30] See, François Luchaire, "La France d'outre mer er la République," *Revue Française d'Administration Publique*, 123 (2007): 399-408.

[31] Also referred to as the *adminstrateur supérieur*, the *Préfet* serves as the national representative of the French Government charged with administering over the French Southern and Antarctic Territories.

[32] France's overseas *Territoires* (Territories) and *Départements* (Departments) are those territories that are administered outside of Europe. From a legal and administrative point of view, *Départements* and *Territoires* differ significantly. Currently, the *TAAF* comprises the only overseas *Territoire* of France. See, Eric Pilloton, "Le statut des Terres australes et antarctiques françaises," dans *Arctique, Antarctique, Terres Australes: Un enjeu pour la planéte, une responsabilité pour la France*, Rapport d'Information du Sénat, 132 (Paris: Commission des Lois Groupe d'études sur l'Arctique, l'Antarctique et les Terres australes, 25 September 2007-2008): 12-13; André Oraison, "Les incidences du 'système juridique Antarctique' sur le statut des terres australes et Antarctique françaises (la souveraineté limitée de la France sur une collectivité territoriale *sui generis* de la République," *Revue Belge de Droit International*, 1 (2006): 151-171; Jacques Zillier, *Les DOM-TOM: Départements/Régions d'outre mer, Territoires, et Collectivités Territoriales d'outre mer* (Paris: Librairie Générale de Droit et de Jurisprudence, EJA, 1996), 1-57.

[33] La Constitution du 4 octobre 1958, Articles 72-3.

[34] Loi n° 2007-223 du 21 février 2007, J.O.R.F. n° 45 du 22 février 2007: 3121; and Loi n° 2007-224 du 21 février 2007, J.O.R.F. n° 45 du 22 février 2007: 3220.

[35] Following a recommendation made by *le Comité de l'Environnement Polaire* in 1995, the Kerguelen, Crozet, and Saint Paul and Amsterdam archipelagos were classified *une réserve naturelle des terrres australes françaises* (a nature reserve) by Décret n° 2006-1211 du 3 octobre 2006. In doing so, France intended to ensure the protection and management of these areas by preserving land and marine biological diversity.

[36] The Îles Éparses have been classified as a nature reserve since 1975. Comprising *l'Archpiel des Glorieuses, Juan de Nova, Bassas da India,* and *Europa* (situated in the Mozambique canal), and île *Tromelin* (located in the Indian Ocean), the îles Éparses were initially administratively attached to Mayotte, and then to Madagascar, before being placed under the authority of the

natural reserve, these islands were classified under French law as *une Réserve Naturelle Nationale* in October 2006.[37]

The *TAAF's* principal role is to ensure the effective management of ecosystems, including or in conjunction with, the management of fisheries.[38] The management of serious maritime issues (most notable to date has been the fight against illegal, unreported and unregulated (IUU) fishing within the French EEZ) is an integral area of responsibility of the *TAAF*. It is also charged with the management of the permanent scientific bases on the sub-Antarctic islands that are resupplied several times a year by the *Marion du Fresne.* Nevertheless, the implementation of France's scientific activities and programs that take place on both the island territories, as well as the French Antarctic sector, remains the responsibility of the *IPEV.*

The *Préfet* of the *TAAF* has a unique role, in that the position is not only representative of the French Government, but also of France's territories. The *Préfet* is supported by a consultative council, comprised of representatives

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French Ministry of Overseas Territories in 1960, and administered from Reunion Island. In 2005, these islands were transferred by decree to come under the administrative power of the *TAAF*, and the authority of the *Préfet.* Since 2007, the îles Éparses have constituted the fifth district of the *TAAF.*

[37] Delphine Sombetzki-Lengagne, "La protection de l'environnement dans les Terres australes et Antarctiques françaises – le projet de création d'une réserve naturelle des terres australes," *Revue Juridique d'Environnement*, 3 (2003): 307-317; André Oraison, "Les répercussions du statut international du continent Antarctique sur le statut interne des terres australes et Antarctiques françaises (les limitations de la souveraineté de la France sur une collectivité territoriale atypique de la République régie par la loi ordinaire du 21 février 2007, 'portant dispositions statutaires et institutionelles relatives à l'outre mer')," *Revue de Droit International, de Science Diplomatiques et Politiques*, 85 (2007): 159-212.

[38] Eric Pilloton, "Auditions du Groupe d'études sur l'Arctique, l'Antarçtique et les Terres Australes Françaises," dans *Arctique, Antarctique, Terres Australes: Un enjeu pour la planéte, une responsabilité pour la France,* Rapport d'Information du Sénat, 132 (Paris: Commission des Lois Groupe d'études sur l'Arctique, l'Antarctique et les Terres Australes, 25 September 2007-2008): 32-48.

from different ministerial departments,[39] and is also represented by a *Chéf de la district* in each of the French Southern and Antarctic lands.[40]

It is important to note the unique political, and legal nature or status of the *TAAF*, especially in terms of its relationship to the European Union (EU). Although considered part of metropolitan France, the *TAAF* does not fall within the institutional framework of the EU. As such, European Community law does not apply to the *TAAF*, except for the association regime based on Part IV[41] of the Treaty establishing the European Community (the EEC Treaty).[42] As a result, the *TAAF* maintains autonomous authority over the waters surrounding France's Antarctic and sub-Antarctic territories in regard to fisheries management, while all other French fisheries are managed under the EU's Common Fisheries Policy (CFP).[43]

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[39] The Ministry for Overseas Territories, the Ministry of Defence, the Ministry of Higher Education and Research, the Ministry of Agriculture and Fishing, the Ministry of the Environment, and the Ministry of Foreign Affairs.

[40] There is a *Chéf de district* for *Îles Crozet, Îles Kerguelen, Îles Saint Paule* and *Amsterdam,* and *Terre Adélie.*

[41] See, the Treaty Establishing the European Community (EEC), Articles 182-188, which states that "the Member States agree to associate with the Community the non-European countries and territories which have special relations with Denmark, France, the Netherlands and the United Kingdom," (Article 182). Contrary to the outermost regions (ORs), which constitute an integral part of the EU (in France's case, the overseas departments of Martinique, Guadeloupe, French Guyana and Reunion Island), the overseas countries and territories (OCTs) listed in Annex II of the EEC Treaty, are those that are not independent, but linked to an EU Member State. Even though OCTs are a part of their Member State, they are not part of the EU, and are therefore exempt from the application of European Community law.

[42] Also commonly referred to as the Treaty of Rome (1957), before it was renamed "The Treaty establishing the European Community" in 1993.

[43] Formally established in 1983, the CFP is the EU's instrument for the management of fisheries and aquaculture. The policy underwent significant reform in 2002. Although EU member states have transformed a large measure of their respective fisheries competence to the European Commission (EC), Annex II of the EEC Treaty states that this transfer of competence does not apply with respect to certain territories of the member states. See, Robin R. Churchill, *EEC Fisheries Law* (Dordrecht: Martinis Nijhoff Publishers, 1987); Robin R. Churchill and Daniel Owen, *The EC Common Fisheries Law Policy* (New York: Oxford University Press 2010); Ellen Hey, *Developments in International Fisheries Law* (Cambridge: MA, Kluwer Law, 1999); Guiseppe Cataldi, "La politique communitaire de la pêche," dans *Le droit international de la pêche maritime;* éd. Daniel Vignes, Guiseppe Cataldi, et Rafael

Integrating France's national Antarctic management

Initiated by the Senate Commission on Economic Affairs, the French Parliamentary Office for the Evaluation of Scientific and Technologic Choice (OPESCT),[44] commissioned a report on France's position in relation to international issues surrounding Antarctic research in 2007. Undertaken by former French Senator Christian Gaudin (current *Préfet* of the *TAAF*) just prior to 2007-08 International Polar Year (IPY), this report intended to define, and enhance the clarity of France's current Antarctic program and its future priorities – in particular, highlighting the importance of developing bilateral and multilateral European and international cooperative partnerships.[45]

From a domestic politics perspective, Gaudin's report drew attention to certain aspects of France's national Antarctic management arrangements that required some improvement. Specifically, the report findings identified the absence of an 'active policy of national cooperation,' regarding the capacity and extent of inter-agency coordination between the *IPEV*, the *TAAF*, research laboratories, scientists, and key funding bodies; and suggested the need to develop a clearer articulation of the respective powers and responsibilities of the *IPEV* and the *TAAF*. The potential for overlap between these two agencies is clear – as although the *TAAF* is charged with the

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Riagon, 280-313 (Bruxelles: Etablissements Emile Bruyant, 2000); Dierk Boos, "La politique communitaire de la pêche: quelques aspects juridiques," *Revue du Marché Commun* (1983): 404-416.

[44] *OPESCT* was established by Act nº 83-609 in July 1983, following the unanimous vote of the French Parliament. Its main objective is "to inform Parliament of scientific and technological options in order, specifically, to make its decisions clear." In this regard, *OPESCT* "collects information, launches study programs and carries out assessments." See, http://www.senat.fr/opesct/English.html.

[45] A report conducted by Senator Gaudin on the transposition bill for the Madrid Protocol in 2003, prompted the undertaking of this wider report on France's polar affairs in 2007.

management and administration of French Antarctic and sub-Antarctic affairs, it is the *IPEV* that is responsible for the selection and conduction of scientific research projects in these territories. Furthermore, although both the *IPEV* and the *TAAF* share involvement in Antarctic and sub-Antarctic activities, they are also involved in and are responsible for other specific geographical zones – in the case of *IPEV* in the Arctic, and the *TAAF* in the *Îles Éparses.*

In order to remain a pivotal player in Antarctic science, both France's research organisation, as well as its capacity to engage in multilevel cooperative activities is essential. According to Gaudin's report, streamlining the coordination processes of France's key polar agencies would enhance coherency, direction and permanency between both agencies, and would ultimately improve the overall efficiency and effectiveness of French Antarctic policy coordination. As a result, France's capacity to pursue its Antarctic agenda and key interests in the region – most notably, maintaining its regional presence and promoting the French territories via scientific research, would be significantly strengthened.

France has made considerable progress towards rectifying organisational discrepancies between its key national Antarctic agencies, and in more recent years, the coordinated relationship between the *IPEV* and the *TAAF* has improved substantially. In March 2009, former French President, Nicolas Sarkozy, appointed former Prime Minister, Michel Rocard, as French Ambassador for international negotiations relating to the Arctic and Antarctic regions – a role that aims to improve the coordination of France's national polar agenda and policies. In October 2010, Sarkozy appointed Gaudin as the new *Préfet* of the *TAAF*. This appointment may be perceived as an endorsement of Gaudin's recommendations outlined in the OPESCT

report, and has most likely been a factor in improving coordination between the agencies.

At an individual level, Gaudin has achieved a high profile for initiating change in Europe in terms of scientific research in the polar regions. The appointment of these two individuals who have demonstrated a significant contribution to French Antarctic affairs, can be seen as a deliberate initiative that aims to strengthen France's capacity to pursue its Antarctic agenda and key interests in the region – most notably, maintaining its regional presence, promoting the French territories via scientific research, and remaining fully active both regionally and internationally in the Antarctic sphere.

France and the European dimension in Antarctica

In order to gain a comprehensive understanding of the nature of France's international Antarctic engagement, it is also necessary to consider the role of the EU in polar affairs, and the extent to which it contributes to, and influences the Antarctic policy agendas of European Antarctic Treaty Member states.

At the forefront of international polar collaboration, Europe is a powerful actor in Antarctic affairs. Europe's science and technology agencies constitute an 'intricate and fertile network' that operates across extensive polar regions, and encompasses multi-disciplinary research.[46] This encourages and facilitates high-level research via 'healthy doses' of both

[46] La Commission Européenne, "Une Vision Euopeénne pour la Recherche Polaire, Spécial Recherche Polaire," *RTD Info Magazine de la Recherche Euopéenne*, numéro spécial (l'Unité Information et Communication de la DG Recherche de la Commission Européenne, 2005): 23-25.

cooperation and competition between European nations.[47] As a driving force in European polar affairs, and a leader in Antarctic science programs, France demonstrates a high level of participation in key European polar agencies, engages collaboratively on joint multilevel research projects and initiatives at both bilateral and multilateral levels, and places significant emphasis on continuing this trend.

With an increasing number of nations becoming actively involved in Antarctic affairs, the importance of pursuing further integration at the European level is a French priority. France considers the development of an effective and coordinated Antarctic strategy at the European level, to be an essential step in terms of the future direction of polar affairs, and fundamental to the maintenance of France's key interests in the region. Consequently, France places significant importance on working toward defining a clear European polar strategy.

Strengthening the overall European polar effort involves developing an overarching coordinated and integrated research plan, in order to position European research, and more specifically, French research, at the highest level internationally. In seeking to achieve this, France actively encourages the concept of the establishment of a centralised European polar agency. Aimed at increasing funding opportunities, such an agency would assist with the financial costs of research, logistics, and infrastructure, to develop regional research networks, and to promote the establishment of an organised cooperative polar program within EU states. Regionally,

[47] Ibid.

France has engaged in Antarctic affairs through the European Polar Board (EPB),[48] and the European Polar Consortium (EPC).[49]

Through the *IPEV,* France has been a driving force within both the EPB and EPC, and provides support to the management and operation of the EPC in conjunction with the European Science Foundation (ESF). In establishing an integrated network for European polar activities, the EPB intends to provide a strategic platform upon which to develop a future European polar entity. The cooperative capacity of European research teams was put to the test during the highly successful EPICA project – a multinational initiative established and supported by the European Commission's framework program, the ESF, as well as individual national polar agencies.[50]

France and international scientific cooperation in Antarctica

Antarctic affairs are fundamentally characterised by a longstanding network of international cooperation.[51] Brought to the fore following the success of the

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[48] Established in 1995, the EPB is the European Science Foundation's (ESF) strategic advisory committee on science policy to the polar regions. With twenty-five member organisations from twenty European countries (including two non-EU Member States – the Russian Federation and Switzerland), it enables coordinated European engagement in polar science programs at both the regional and international levels, and provides advice and recommendations to the European Commission, as well as relevant international bodies.
[49] The EPC is a Coordinated Action financed by the EC under Framework Programme 6 (FP6), and is comprised of twenty-seven government ministries, national funding agencies, and national polar authorities from nineteen European countries, and of the ESF/EPB. See, http://europolar.esf.org/; and, the European Polar Consortium, "The Landscape of European Polar Research – Volume I: An assessment of current strategic management, polar programme definition and processes," (2007): 19, http://www.europolar.org/assets/files/ESF_polarV1.pdf; and Nicolas Walter, *Investigating Life in Extreme Environments: A European Perspective* (European Science Foundation, 2007): 2.
[50] Involving ten European nations, the EPICA program ran from January 1996 to December 2000. In January 2001, the project was extended for another six years, and concluded in December 2006. See, the European Polar Consortium, "The Landscape of European Polar Research – Volume I," 17.
[51] Gaudin, "French Polar Research," 103.

1957/58 International Geophysical Year (IGY), international scientific cooperation provides a fundamental principle of the Antarctic Treaty, and occupies a 'central place' within the entire ATS.[52] The unique characteristics of the Antarctic environment provides ever increasing opportunities for the conduction of 'frontier science', and is ultimately leading to ground breaking research in a variety of important domains.[53] The capacity of states to undertake successful polar research relies on international cooperation and collaboration.[54]

Internationally, France is a pivotal player in Antarctic science, having remained highly active in various fields of Antarctic scientific research since the 1950s.[55] Considering the significant position science occupies on the French Antarctic agenda, and given its extensive record of scientific involvement, France perceives the maintenance of a permanent scientific presence in the Antarctic region to be of crucial importance to its overall interests in the region.[56]

France is an avid supporter and initiator of international polar research activities across a vast variety of disciplines through national bodies such as the *IPEV*, the *CNRS, le Commissariat à l'énergie atomique (CEA),* and *l'Institut français de recherche pour l'exploitation de la mer (Ifremer*),[57] through European agencies such as the EPB and the EPC, and internationally through the ATS institutions. Since the establishment of the *IPEV* in 1992, France has increasingly occupied an eminent international position. In terms of polar

[52] Dastidar and Persson, "Mapping the global structure of Antarctic research," 1552.
[53] Pimpirev, "Editorial," 1.
[54] Comments made by Gérard Jugie at a round table discussion, in Cointat, "Arctique, Antarctique, Terres Australes," 44.
[55] "PLT FP7 Design Study, Proposal Part B," 66.
[56] Gaudin, "French Polar Research," 9.
[57] For a brief explanation of these organisations, see footnote 22 on page 9 of this chapter.

science, the EPB, and the *IPEV* (as part of the national European polar programs) were at the forefront of the 2007-2008 IPY. The *IPEV* was highly involved in the IPY, through its membership, submission of research proposals, and via its leadership role in research programs.

The *IPEV* also confirms France's prominent position in the international Antarctic science community in terms of both the volume, as well as the quality of scientific research France undertakes on the Antarctic and sub-Antarctic regions. An analysis of the publications relevant to the polar regions since the establishment of the *IPEV* in 1992, highlights the prime position France occupies in relation to the number of high quality scientific publications produced. Internationally, France is ranked fifth in relation to the number of published scientific reports produced on the Antarctic.[58] On average, over sixty-five percent of French research articles are on the sub-Antarctic and Adelie Land.[59]

Noteworthy is France's premier position in terms of the number of international scientific reports published on the sub-Antarctic region – France surpasses the number of publications produced by states such as Australia, the United Kingdom and South Africa, that like France, also claim sub-Antarctic islands, and maintain stations in the region.[60] This underlines the significant importance France dedicates to its interests in this region, and highlights the emphasis it places on pursuing a large volume of quality research across a vast spectrum of scientific disciplines. In terms of the diversity of research, more than thirty percent of French research

[58] Yves Frenot, personal communication, 19 May 2011, Brest, France.
[59] Yves Frenot, "Les auteurs français et les régions polaires dans la presse scientifique," *Rapport d'Activité* (Brest: IPEV, 2008): 9.
[60] Frenot, personal communication, 2011.

publications are focused on terrestrial ecology, followed by geophysics at sixteen percent, and atmospheric sciences at eleven percent.[61]

Nations involved in Antarctic affairs are increasingly demonstrating a common desire to improve knowledge and understanding of the region. International cooperation is not only an efficient, but indeed a necessary step in addressing issues requiring collective solutions, such as environmental protection, marine resource management, and climate change – the latter of which accounts for the highest percentage of research activity undertaken in the region.[62] In addition to the significant environmental concerns associated with climate change, related geopolitical and economic considerations are broadening at the global level. As a shared sense of urgency concerning climate change rises, an increasing number of Antarctic Treaty Members are recognising the critical importance of cooperating to identify common research priorities, to concentrate efforts in areas of mutual scientific interest, and to develop effective collaborative programs.[63]

Nevertheless, as the scale of Antarctic science programs and initiatives continue to widen, so to do the financial costs associated with undertaking the necessary research activities – with some nations spending up to eighty percent of their total Antarctic budget on logistics and infrastructure.[64] This initiates another major incentive for increased cooperation, particularly in relation to the sharing of logistics, infrastructure, and transportation.

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[61] Frenot, "Les auteurs français et les régions polaires," 9.
[62] The European Polar Consortium, "The Landscape of European Polar Research – Volume I," 19.
[63] La Commission Européenne, "Une Vision Européenne pour la Recherche Polaire," 25; the European Polar Consortium, "The Landscape of European Polar Research – Volume I," 6.
[64] La Commission Européenne, "Une Vision Européenne pour la Recherche Polaire," 23.

In light of the considerable financial costs associated with undertaking Antarctic activities, ATCPs are increasingly realising the benefits that may be accrued from enhanced cooperation and collaboration in a variety of areas. In France's case, the sheer geographical isolation of its research stations (from metropolitan France) exacerbates the importance of undertaking cooperative efforts whenever possible in order to achieve its Antarctic agenda. Unlike other Antarctic claimant states (with the exception of Norway and the UK),[65] France maintains a bi-polar agenda – engaging in activities in both the Antarctic and Arctic regions.[66] This presents a significant division of both national funding and resources, thereby requiring a higher level of coordination between national, regional and international agencies. As France does not claim territory in the Arctic, and given Antarctica's geographical distance from metropolitan France, it places considerable emphasis on pursuing cooperative initiatives and policies in relation to the Antarctic region.

For example, France and Germany merged their existing Arctic Stations, Charles Rabot (operated by the *IPEV* since 1998), and Koldewey (operated by

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[65] Norway claims Dronning Maud Land in the Antarctic, and Bouvet Island and Peter I Island in the sub-Antarctic. The Spitsbergen Treaty (1920) LoN-41, recognises the full and absolute sovereignty of Norway over the entire Arctic archipelago of Svalbard (Svalbard was made part of Norway by the Svalbard Act of 1925), although the exercise of sovereignty is subject to certain stipulations. The Spitsbergen Treaty allows signatory nations the right to settle on the archipelago. The UK is not considered to be an Arctic state – geographically, politically or culturally. However, it is a near neighbor to the Arctic region, with established political, commercial, and scientific interests, and is also an Observer State to the Arctic Council. The UK maintains NERC Ny-Alesund research Station in Svalbard. See Gaudin, "French Polar Research," 14, 38.

[66] Although France has never claimed sovereignty to Arctic territory, it has maintained a regional presence through the establishment of scientific bases (*Charles Rabot* and *Jean Corbel*) located on the Svalbard archipelago. The *IPEV*, and Germany's Alfred Wegner Institute (AWI) merged their existing research stations into a shared facility in 2003 to form the *AWIPEV* Arctic Research base at Ny-Alesund, Spitsbergen. See, the European Polar Consortium, "The Landscape of European Polar Research – Volume II: European Polar capacity – an overview of research infrastructures in the Arctic and Antarctic" *Report by the European Polar Consortium* (2007): 7.

Germany's Alfred Wegner Institute (AWI) since 1991), to establish *AWIPEV* – a joint research base in May 2003, located at Ny-Alesund in Spitsbergen, on the Svalbard archipelago. *AWIPEV* provides research facilities, as well as serving as an expedition base that enables research work to be undertaken at Ny-Alesund and West-Spitsbergen. Ny-Alesund provides the site at which ten countries (the UK, Norway, Japan, China, Italy, France, Germany, the Netherlands, Korea, and India) have established polar research facilities – a pertinent example of international cooperation. Additionally, France and Germany collaborate extensively on a diverse range of scientific projects in both polar regions.

Towards enhanced international cooperation

In light of France's broad range of Antarctic interests, and in order to accommodate a widening Antarctic agenda, French participation within the ATS is increasingly characterised by multi-level international cooperation. A major, and ongoing contributor to Antarctic research, France is a leader in both regional and international science programs, and places significant emphasis on continuing this trend. At the regional level, France is a driving force in European polar affairs – demonstrating a high level of participation in key European polar science agencies, and engaging collaboratively on joint research projects and initiatives at both bilateral and multilateral levels.

Internationally, France is a significant actor in Antarctic science. A major participant in multilateral initiatives such as the IPY, France is also a key contributor to major international Antarctic organisations and instruments, such as CCAMLR and the CEP. Considering the significant position science occupies on the French Antarctic agenda, and given its extensive record of scientific involvement, France perceives the maintenance of a permanent

scientific presence in Antarctica to be of crucial importance to its overall interests in the region.[67]

Throughout the last decade in particular, France has been placing increasing emphasis on engaging in international cooperative efforts within the ATS, and has demonstrated its clear will and capacity to fulfil a leadership role in encouraging and facilitating international cooperation in the region. In defining a national Antarctic strategy to achieve its key Antarctic interests, France, taking both political and scientific considerations into account, is pursuing several main cooperative strategies – most notably, the negotiation of both formal and informal agreements, and the development of bilateral and multilateral partnerships. These are centered upon the development of multi-disciplined collaborative science programs, the establishment of joint stations, resource pooling and logistics sharing, and the creation of a coordinated European polar strategy. France is also placing increasing emphasis on collaborative scientific research in regard to environmental management and protection.

From contextual background to empirical evidence

The preceding Chapters have contextualised France's engagement in Antarctica and the sub-Antarctic, and explained the nature of its involvement in the ATS. This material described the development of France's engagement, and outlined the domestic political and administrative arrangements supporting current Antarctic work, and that provides the foundation for France's cooperation. While France pursues key national policies in the region, it does so within the overarching institutional

[67] Gaudin, "French Polar Research," 9.

framework provided by the Antarctic Treaty. Within this framework, other Antarctic Treaty member states also interact in the region, through participating in the ATS, pursuing their own interests, and collaborating in a range of areas of mutual interest.

The following three chapters in Part II, present empirical case studies upon which the analysis of incentives and strategies of French cooperation within the ATS is based. The first case study presented in Chapter Four is centered on France's cooperative engagement with Italy in regard to the establishment of Concordia Station. In Chapter Five, the second case study focuses on France's bilateral cooperation with Australia in regard to cooperation on marine living resources in the Southern Ocean. The final case study in Chapter Six covers France and environmental protection within the ATCM and the CEP, and outlines France's increasingly cooperative and collaborative efforts at the multilateral level.

Part II

Case Studies

4. France, Italy and Scientific Cooperation in Antarctica

France's joint venture with Italy in the establishment of Concordia Station at Dome C on the Antarctic Plateau, provides a pertinent example of its capacity to develop a highly successful bilateral collaborative partnership in Antarctica. One of the key aims of Concordia is to enhance the capacity of international researchers to undertake collaborative projects in a number of scientific domains – many of which are new and emerging fields of research, and comprise projects that had up until now, been difficult or impossible to pursue in Antarctica.

Concordia is one of sixty-eight stations operated by twenty-five nations on the Antarctic continent – forty-six of these stations are open all year round.[1] Opened in 2005, Concordia is currently the only permanent joint continental station in year-round operation (operated and managed by the French and Italian national research programs). Originally established as a summer camp to provide logistical support to the European Project for Ice Coring in Antarctica (EPICA),[2] Concordia's main purpose now extends to provide a research facility that is open to the wider international scientific community.

Concordia Station is located at the Dome C site on the Antarctic Plateau, at an altitude of 3200 meters within the Australian Antarctic sector.[3] Geographically situated 1100 kilometres to the interior of the continent at

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[1] Mathias Strobel et Frank Tétart, "Le tourism en Antarctique: un enjeu géopolitique?" *Hérodote*, 4.127 (2007): 167.

[2] La Commission Européenne, "Une Vision Euopéenne pour la Recherche Polaire, Spécial Recherche Polaire," *RTD Info Magazine de la Recherche Euopéenne*, numéro spécial (l'Unité Information et Communication de la DG Recherche de la Commission Européenne, 2005): 23-25.

[3] CNRS, "Année Polaire Internationale – pleins feux sur les pôles," *Le Journal de CNRS* (février-mars 2007): 205-206.

75°06′ South and 123°23′ East, Dome C is characterised by both extreme isolation, and inhospitable meteorological conditions.[4] Russia's Vostok Station 560km away, is the closest interior base to Concordia, while Dumont d'Urville Station, and Australia's Casey Station (located over 1000km away) are the most proximate coastal stations. Average summer temperatures are around -30° Celsius, with winter averages as low as -60° Celsius. Despite the logistical challenges, and considerable financial costs associated with establishing and operating a scientific base on the remote Antarctic Plateau, it is the unique geographical and meteorological conditions at Dome C that make it a superior site for research in a variety of disciplines – particularly the fields of climatology and astronomy.

Following seven years of study into the architectural design of the proposed station (including consideration of the logistical support required for such a project), construction at Concordia commenced in 1995, and lasted for three summer seasons. Innovatively designed, Concordia Station is comprised of three self-elevating structures, referred to as the winter buildings, with an adjacent summer camp that serves as an emergency building. Construction of the main buildings was completed at the end of 2004. By early 2005, the following year, the two twelve meter high towers were finished. Following this, Concordia was able to host its first thirteen-member team for a nine-month over-winter expedition.

The routine operation of Concordia is dependant upon the capacity to transport necessary equipment (an average of three hundred tonnes annually) to Dome C from Dumont d'Urville Station both safely and efficiently. Cargo shipped from Hobart, Tasmania, to Dumont d'Urville

[4] France and Italy, "Concordia: A new permanent, international research support facility, high on the Antarctic ice cap," *IP 60*, ATCM XXXVII (Cape Town, 2004).

Station is transported to Dome C via the long-range traverse surface transportation system that was constructed between the two Stations. In addition to terrestrial transportation, around forty flights undertaken by Twin Otter aircraft arrive at Dome C each season, and operate between Italy's Mario Zucchelli Station at Terra Nova Bay, Concordia, and Dumont d'Urville Station to provide transport for personnel as well as light cargo.

Concordia intends to provide an international platform upon which to base, and support research programs with shared objectives, and to improve the capacity of the international scientific community to undertake Antarctic research projects in a number of scientific domains.[5] From a scientific point of view, Concordia was initially established in order to allow scientists to pursue two primary fields of research – glaciology and astronomy. Deep ice core drilling in the Antarctic first commenced in the 1970s, and later developed into a multilateral international project in the 1990s as part of the EPICA program. Preliminary astronomical research also took place around the same time, with subsequent European and international programs established in these disciplines.

Towards a French-Italian partnership

There are a number of factors that contributed to France's decision to conclude a bilateral agreement with Italy, and to develop a joint station. In the first instance, Italy, as a politically important, and well-respected state (both within the context of the European Union (EU), as well as within the international arena), would together with France, enhance Europe's level of

[5] La Commission Européenne, "Une Vision Euopéenne pour la Recherche Polaire," 32; Nicolas Walter, "Investigating Life in Extreme Environments: A European Perspective," *European Science Foundation Report* (2007).

political influence within the international Antarctic arena – particularly within the forum of the ATCM. Second, France places strong emphasis on pursuing excellence with respect to all scientific research in Antarctica. Both France and Italy demonstrate well established, and active Antarctic programs, and have maintained long-standing interests in the region. Third, the identification of fundamental common areas of scientific interest was also a factor that contributed to France's selection of Italy as a partner – with both nations sharing a mutual interest in astronomy, as well as a desire to pursue research in this discipline in Antarctica.[6]

In relation to this third point, France and Italy both maintain an historical interest in, and commitment to astronomy as a scientific discipline.[7] France has been highly active in the field of astrophysical research, with scientists setting up detectors on Kerguelen Island and Adelie Land as early as the 1960s. Site testing undertaken at Dome C throughout the 1980s confirmed its suitability as a site at which to undertake astronomical observations. A desire to implement large-scale scientific projects (particularly in the physical science fields, such as climatology and astrophysics) constituted another motivating factor in France's decision to establish a joint station at the interior of the continent in partnership with Italy. Via the provision of infrastructure, logistics, and necessary expertise, the joint venture ultimately intends to contribute to the future of outer space exploration from Antarctica.

The establishment of Concordia enabled France to build on these scientific traditions, by establishing the first European astronomical observatory on the Antarctic continent. Furthermore, Concordia provides for the potential

[6] A primary reason for Concordia's construction on the Antarctic plateau rather than along the coast, was due to the foreseen potential for the development of an astronomical facility.
[7] Italian research teams established a sub-millimeter wave antenna at Mario Zucchelli Station in 1986.

future development of an international scale astronomical program. It was with this in mind (coupled with the realisation of the increasing scope of diverse scientific research that has been able to take place in Antarctica due to the level of international cooperation) that a consortium of like-minded states was established. As a result collaboration at Concordia provides an immense potential to 'add a new dimension to the annals of the ATS and Antarctic science.'[8]

France and Italy share a strong record of bilateral cooperation – a trend that has been progressively consolidated since the signing of the 1949 French-Italian Cultural Agreement,[9] and continues to be considered a high priority for both nations. The Cultural Agreement provides the original legal foundation upon which France and Italy have sought to strengthen their bilateral cooperative relations in the fields of scientific research and technology. The preamble to the Cultural Agreement outlines the shared principles and values between both countries in regard to 'intellectual life,' and highlights a mutual desire and willingness to enhance bilateral relations regarding science. Importantly, Article 1 provides for the establishment of institutions aimed at promoting the development of mutual relations in the humanities, science, and arts disciplines; while Article 10 establishes a Commission comprised of both French and Italian representatives to facilitate the adaption of the Cultural Agreement to potential future developments between the two nations.

[8] Ibid.
[9] (1949) UNTS 1516 (hereafter Cultural Agreement)

Recognising the value of reinforcing collaboration in key research domains of mutual interest, France and Italy signed a general Scientific and Technological Cooperation Agreement on 21 January 2001,[10] followed by a series of more specific research agreements in 2005, in order to realise fully the potential 'reciprocal advantages' of bilateral cooperation. The two main objectives of the Scientific and Technological Cooperation Agreement are the exchange of scientific and technological information, and the collective definition and implementation of collaborative research programs. In this regard, France and Italy favour the elaboration of joint scientific projects that have the capacity to be couched more widely within not only European, but also international programs. France and Italy are also focused on pursuing projects that initiate the participation and support of researchers and experts from both nations for the realisation of such programs.[11] Seeking to facilitate the mobility and exchange of relevant experts and researchers, France and Italy encouraged the development of direct relations, through the signing of specific bilateral arrangements or conventions at both the ministerial level, as well as between individual research bodies, universities, and scientific institutions.

A joint scientific and technological Commission was developed in order to, amongst other things, identify areas of mutual interest within the respective priority areas of both nations, define an annual work agenda that specifically outlines the details of planned cooperative activities, and to manage and

[10] The Agreement was signed on 29 January 2001 in Turin, Italy, by the French Minister for Foreign Affairs at the time, Hubert Vedrine, and his Italian counterpart, Minister Lamberto Dini. See, (2008) 2513 UNTS [i], *Receueil des Traités: Traités et accords internationaux enregistrés ou classés et inscrits au répertoire au Sécretariat de l'Organisation des Nations Unis.*

[11] In terms of finances, each nation offers financial aid to researchers and technicians of the other, for the development of research undertaken in both public and private scientific and technological establishments.

evaluate this work agenda. Furthermore, the Commission formulates and synthesises recommendations aimed at the realisation of bilateral scientific and technological cooperation.

In signing the agreement with France, Italy's Research and Education Minister, Letizia Moratti, highlighted the likely potential for cooperation to expand and develop in a variety of disciplines, noting that agreements provide the 'concrete proof of a renewed cooperation between countries of the European Union,' whilst simultaneously signifying a fundamental movement toward the 'construction of the European Research Area (ERA).'[12] The development of the ERA is a subject upon which France has placed considerable emphasis.

The Franco-Italian Scientific and Technical Council convened for the first time in March 2005. In May that same year, France and Italy signed a joint declaration, as well as a series of research agreements. These sought to enhance scientific and technological cooperation between relevant French and Italian universities, institutes, and ministries, and to encourage wider involvement among European nations in the Sixth Framework Programme (FP6) of the European Commission.

A number of these agreements were between France's *Centre Nationale de la Recherche Scientifique* (*CNRS*)[13] and the respective Italian agency, *Consiglio Nazionale delle Richerche* (*CNR*),[14] as well as between France's *CNRS/Institut Français de Recherche pour l'exploitation de la Mer* (*Ifremer*)[15] and various Italian organisations in the areas of marine research and scientific cooperation in

[12] Ibid.
[13] The French National Centre for Scientific Research.
[14] The Italian National Research Council.
[15] The French Research Institute for Exploitation of the Sea.

Antarctica. Specifically, the series of agreements aim to 'relaunch' bilateral scientific cooperation in 'strategic areas,' in order to ensure wider coordination and integration of joint activities at a regional level.[16] Strategies to achieve this have included increasing the 'critical mass' of researchers, coordinating and consolidating the actions of both nations, and providing a 'convergent point within the EU on these themes.'[17]

In regard to environmental protection in Antarctica, France and Italy's mutual acknowledgement of the vital importance of these agreements in enhancing the capacity for international scientific cooperation (as is called for under the Antarctic Treaty), and ensuring environmental protection (as is established in the Madrid Protocol), was a fundamental driver in the decision to develop a bilateral arrangement for a joint Antarctic station. Both France and Italy also recognised that such an initiative would enhance the capacity to pursue scientific projects of direct relevance to safeguarding the Antarctic environment.[18]

France and Italy had extensive experience in negotiating and developing bilateral agreements – particularly those relating to scientific and technical matters. The significant value of these pre-existing bilateral arrangements to both nations is clearly evident. This contributed to France's decision to continue this tradition, and propose the development of a French-Italian

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[16] Times Higher /Education (THE), "Italy signs bilateral research agreements with France, Spain and Portugal," *Cordis RTD-News*, European Communities (Brussels, 13 May 2005), http://www.timeshighereducation.co.uk/story.asp?storyCode=196049&sectioncode=26.

[17] Ibid.

[18] As documented earlier, France was instrumental in the rejection of CRAMRA, and played a major role in leading negotiations towards the Madrid Protocol, particularly among European Antarctic Treaty Member States. Following France and Australia's lead, Italy was one of the first nations to indicate support for an environmental protection regime in favour of the Minerals Convention. A more comprehensive discussion of France's role in the development of the Madrid Protocol is provided in Chapter Two.

research station in Antarctica. Importantly, these agreements also provided a solid legal and institutional framework on which to develop an agreement specific to scientific and technological cooperation in the Antarctic, and that would be centred upon the establishment of a conjointly managed station.

Prior to the selection of Italy as a partner, France's national Polar Institute *(l'Institut Paul Emile Victor*, the *IPEV)* proposed the development of a joint station with the Australian Antarctic Division (AAD). A lack of common interests in terms of the type of research to be undertaken at the planned station significantly assisted Australia and France in deciding not to progress this idea.[19] France, while intending that a new joint station develop into an international astronomical observatory for studies into outer space, did not possess all the resources to undertake the construction and operation of another station independently. Realising the immense benefits of harnessing the engagement of a European nation, France decided to undertake collaboration with Italy in the venture of establishing a conjoint research facility at Dome C.

The Agreement on Scientific Cooperation in the Antarctic

The opportunities for a joint French-Italian scientific partnership in Antarctica were first mentioned at the conference, 'Polar Research: a strategy for the year 2000,' held at the *Academie des Sciences,* in Paris in 1992.[20] In

[19] At this time, Australia's Antarctic program did not demonstrate significant interest in pursuing research in the atmospheric or physical sciences. In light of this, and given the high costs associated with establishing and maintaining another station (particularly one located at the interior of the continent), Australia considered the proposal to be outside its key areas of interest, and declined France's offer to establish a joint station. Rex Moncur, personal communication, 16 November 2011, Hobart.

[20] ARENA Consortium, "A Vision for European Astronomy and Astrophysics at the Antarctic Station Concordia, Dome C in the next decade 2010-2020," ed. Nicolas Epchtein (Novaterra/Montpellier, 2010): 18.

March 1993, the French and Italian national Antarctic programs – at the time, the French Institute for Polar Research and Technology (that later became the *IPEV*), and Italy's National Agency for New Technologies, Energy and Sustainable Economic Development (the *ENEA*) in its capacity as the body responsible for executing the Italian National Research Program for Antarctica (the *PNRA*),[21] decided to advance this idea. With both these agencies demonstrating extensive experience in the practice and management of polar logistics, the formulation of a bilateral agreement to develop a program for scientific and technological research cooperation, and the construction of a permanent joint research station at Dome C on the Antarctic plateau ensued.

Signed on 4 October 2005 (entered into force in 2007) by former French Minister for Education and Research, Mr Francois Goulard, and his Italian counterpart at the time, Mrs Laetizia Moratti, *l'Accord de Coopération Scientifique en Antarctique* (the Agreement on Scientific Cooperation in the Antarctic) constitutes a unique and successful institutional arrangement within the ATS.[22]

Construction of Concordia commenced in 1995, and despite periods of stalled development up until 1999 due to ongoing logistical issues, the Station was officially opened for summer operation by December 1997.[23] In May 2004 Concordia's construction phase was nearing completion, and the opening of the station for year-round operation was planned for 2005.[24]

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[21] *Programma Nazionale Richerche in Antartide.*
[22] (2005) J.O. n° 62 (hereafter Antarctic Cooperation Agreement or *Accord de Coopération Scientifique en Antarctique*).
[23] ARENA Consortium, "A Vision for European Astronomy," 18.
[24] Summer campaigns may last for a duration of up to four months, while winter campaigns may last as long as eight months. Facilities at Concordia allow for sixteen personnel during a winter campaign – this includes nine staff undertaking scientific activities, as well as seven

Following this, a committee, established by both nations, and charged with the implementation of Concordia under the Agreement, further defined the rules of the Agreement relating to the use of both the Dome C site, and the Station facilities, as well as for the establishment and implementation of joint scientific and technological programs.

Comprised of eight articles, the Antarctic Cooperation Agreement outlines the requirements France and Italy must fulfil and comply with in relation to the implementation and management of the bilateral partnership. These requirements are practically implemented by the national bodies responsible for the operation of Concordia – the *IPEV,* and Italy's National Scientific committee for Antarctica (*CSNA*), operating through the *ENEA*.[25]

Importantly, Article 1 of the Agreement stipulates that both Parties pursue scientific and technological cooperation at Concordia Station within the legal and institutional scope of the ATS. The Agreement also outlines provisions for the conduction of both joint logistical operations (in relation to equipment, and the maintenance of existing national scientific and technological installations), as well as of joint scientific and technological research programs in areas of mutual interest and expertise – particularly in the physical, biological, earth, and technological scientific disciplines.

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support staff. See, Patrice Godon et Nino Cucinotta, "Concordia Station: Une Nouvelle Station Permanente sur le Plateau Antarctique," http://www.diagonale-groenland.asso.fr/pdf/Concordia.pdf.

[25] The *ENEA* (the Italian National Agency for New Technologies, Energy and Sustainable Economic Development) was formally called the National Programme of Antarctic Research the (*PNRA*) – the body through which Italy carried out its Antarctic program since 1985. In 2003, the Consortium for the implementation of Italy's National research program was created, and took over tasks that had previously come under the *ENEA*. The Consortium operates in conjunction with a number of other member institutions, including the *CSNA*, as well as the *ENEA*.

Information exchange and provision for joint scientific and technological personnel are also provided for.

The scope of the Agreement enables the two Parties to develop projects of mutual interest, and allows for the development of new collaborative agreements. It also encourages collaboration with the relevant scientific bodies of other ATCPs in order to facilitate international research projects.

The Directorate Committee, the Executive Director, the Scientific Council and the Responsible Expedition, are the core administrative structures charged with the responsibility of managing the use of Concordia. The Directorate Committee is comprised of four members and two representatives from each of the Parties. On the French side, these positions are occupied by Dr. Yves Frenot as the Director of the *IPEV*, as well as a representative nominated by the Minister for Research. The Directorate Committee has a number of important functions – including, the right and discretion to invite relevant expert consultants to participate in discussions pertaining to the management and operation of Concordia where necessary, and the authority to stop the development of programs. It also establishes an annual program of activities for both summer and winter campaigns, adopts and manages both the functional budget necessary for the realisation of the annual program of activities (as well as the general rules applicable to the site), and sets out the division of financial responsibilities of each of the Parties.

Consultative meetings between the Executive Director and the Directorate Committee take place in order to consider the feasibility of the scientific programmes proposed by the Scientific Council in accordance with logistical and budgetary feasibility, security conditions, as well as environmental protection considerations. This involves the development of a list of works

for the site, and the identification of the logistical requirements – such as deciding on the air and terrestrial transport necessary for the implementation of the annual program of activities.

The Scientific Council is comprised of nine members, including: three French representatives nominated by the Minister for Research, three Italian representatives named by the National Scientific Committee for Antarctica, as well as three foreign experts. The Council Members are appointed for a period of four years, and Members of the Directorate Committee may assist in the Council meetings. Led by the President, the Scientific Council assists the Directorate Committee concerning questions relevant to research, as well as scientific and technological development, and evaluates all proposed programs prior to their implementation.

Under the authority of the Directorate Committee, an expedition is nominated for each summer and winter campaign, and is responsible for the operation and management of the station, defining and organising the proposed work at the station, and implementation of scientific and technical programs. France and Italy established a joint budgetary arrangement to manage the financial organisation of Concordia Station. Costs are shared equally between the two Parties. The total budget provides for expenses relating to the functioning of the actual Station, as well as the surrounding Dome C site, but excludes the expenses relating to personnel (that remains the responsibility of each Party). The potential for the participation of other nations at Concordia Station is defined under Article 11 of the Antarctic Cooperation Agreement.

France's objectives at Concordia Station

A key objective of establishing a joint station was to strengthen the capacity for high-level research in specific scientific domains. Envisaging the creation of an international research platform at Concordia, France and Italy prioritise developing networks and new research partners. In view of consolidating Europe's presence in Antarctica, particular emphasis is directed towards harnessing the participation of other European nations.

Pursuing high level scientific research

International scientific cooperation occupies a 'central place' throughout the entire ATS.[26] It is this doctrine (the enshrinement of international cooperation for the purposes of science) that has significantly contributed to a rise in the level of cooperation among ATCPs. Increasingly, the unique characteristics of the Antarctic environment are providing new opportunities for the conduction of frontier science, and are ultimately leading to groundbreaking research in a variety of important scientific domains, such as climate change.

The location, technology, and state of the art facilities at Concordia Station have enabled the development of a wide range of scientific programs and research projects – most notably in the fields of astronomy and astrophysics, atmospheric sciences, glaciology, and the earth sciences. Key scientific

[26] P.G. Dastidar and O. Persson, "Mapping the global structure of the Antarctic research vis a vis Antarctic Treaty System," *Current Science,* 89.9 (2005): 1552-54; John Storey cited in Toni Feder, "China is latest country to pursue astronomy in Antarctica," *Physics Today*, 64.1 (2011): 22-23. See also James Zumberge, "The Antarctic Treaty as a Scientific Mechanism: The Scientific Committee on Antarctic Research and the Antarctic Treaty System," in *Antarctic Treaty System: An Assessment,* proceedings of a Workshop held at Beardmore South Field Camp, Antarctica, 7-13 January 1985 (Washington D.C.: National Academy Press, 1986): 153-168.

projects that have been undertaken at Concordia (including those that are still currently in operation, or are planned for future implementation) are discussed in greater detail in the next section.

- Climatology, and deep ice core drilling at Concordia

To date, the most notable multilateral scientific project realised at Dome C has been EPICA – a multilateral, paleo-climatological project established by the European Science Foundation's (ESF) European Polar Board (EPB), under the framework of the European Commission. It is one of the ESF's most successful, and longest running programs. Bringing together twelve partners from ten European nations,[27] EPICA aimed to obtain the most extensive chronological record of environmental change possible in the Antarctic, in order to compare and study climatic variability in both polar regions.[28] Undertaken in order to complement the results of the highly successful Greenland Ice Core Project (GRIP), EPICA involved obtaining ice cores from two different Antarctic sites – Dome C, near Concordia Station, and Germany's Kohnen station.[29]

[27] Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland, and the UK.

[28] Commencing in January 1996, EPICA was intended to conclude in December 2000. The program was extended for another six years in January 2001, and finally concluded in December 2006. See, Jean Claude Hureau, "L'Antarctique, un continent voué à la science" dans *Le Monde Polaire – Mutations et Perspectives,* sous la direction de Marie Françoise André, 167-182 (Paris: Ellipses Editions Marketing, 2005): 169.

[29] The second site for drilling was established at Kohnen Station in Dronning Maud Land. Drilling concluded on 17 January 2006, at a depth of 2774.15 meters. See, la Commission Européenne, *Une Vision Européenne pour la Recherche Polaire,* 7; and The European Polar Consortium (EPC), "The Landscape of European Polar Research – Volume I: An assessment of current and strategic management, polar programme definition and processes," *report by the European Polar Consortium* (2007): 10.

An additional aim of EPICA was to enhance the scope and coordination of European cooperative research initiatives. Commenting in a European Polar Consortium (EPC) press release, Professor Hubertus Fischer from the Alfred Wegner Institute (AWI) confirms that 'only in such close collaboration between all European working groups has it been possible to carry out such a large scale project logistically and scientifically.'[30] The research teams and funding necessary for the project were provided for by the ten participating nations.

A one million year old record of global climate history is captured in the 3200 thick ice at Dome C. This, coupled with an extremely low rate of annual precipitation at the site, makes Concordia Station the ideal location for deep ice core drilling projects. Ice core data collected by deep drilling activities provides glaciologists with extensive information on numerous glacial and interglacial cycles.

The first attempts at ice core drilling in Antarctica took place near the Dome C site as early as the 1970s. Drilling for EPICA commenced near Concordia Station during the 1996/97 summer season, and concluded on 21 December 2004 (after an extension of the project in 2000), when after reaching a depth of over three thousand meters, scientists extracted the world's oldest ice core. This extended the existing climatic record to over 900 000 years.[31] The attainment of an ice core archiving such a vast timeline of climate patterns (spanning eight interglacial climatic cycles) has had significant impact in terms of contemporary climate change research. The 'detailed climatic

[30] European Polar Consortium, "Press Release," www.essi.org/docs/EPC.pdf.
[31] La Commission Européenne, "Une Vision Européenne pour la Recherche Polaire," 7.

reconstruction' provided by the EPICA ice core was included in the International Panel on Climate Change (IPCC) report.[32]

France has demonstrated a strong and ongoing interest in Antarctic glaciology, and continues to significantly contribute to the development of the discipline through the scope of the high quality research it pursues in this area. France does so at both the national level – through the work undertaken by national research institutes and agencies, as well as at the regional level – through participation in both bilateral and multilateral European initiatives, such as EPICA. It was French glaciologist, Claude Lorius who first identified the potential of Dome C as a suitable site at which to undertake studies on climatic variability in the 1970s.[33] The development of an international program ensued, with Lorius and his team completing their inaugural research expedition throughout the 1974/75 austral summer. In January 1978, Lorius's team undertook deep ice drilling to a depth of 906 meters, approximately forty kilometres from where Concordia Station is located today.

Concordia Station provided a significant proportion of the infrastructure and logistical support necessary for the realisation of EPICA. Through the *IPEV*, France was a partner and major participant in EPICA and, along with their Italian counterparts, the *PNRA*, significantly contributed to the provision and

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[32] ARENA Consortium, "Polar Large Telescope Proposal - PLT FP7 Design Study, Part B" (1 November 2010): 66.

[33] Prior to this, Lorius had gained experience through his involvement in glaciology projects in Greenland. In 1957, he commenced Antarctic glaciological research at France's Charcot base. Lorius's theory proposed that trapped air bubbles in accumulated layers of ice could provide important chronological information about climate – including greenhouse gas content and variations in temperature for different time periods. It was in 1965, following several summer campaigns, that Lorius began collecting ice core samples at the Dumont d'Urville base, and investigating their capacity to provide valuable information on the composition of air.

coordination of logistical support necessary to undertake drilling activities at Concordia.[34]

- Astrophysics at Concordia

Fully operational by 2005, Concordia Station is situated at an altitude of 3200m above sea level on the Antarctic plateau. Characterised by extreme cold and dry conditions, and experiencing three months of full night, and three months of full daylight annually, the unique meteorological conditions at Concordia present excellent opportunities for research in the field of astronomy.[35]

Although astronomers had sought to establish instruments, and undertake research in the Antarctic region for the last forty years, it was at the International Astronomy Union (IAU) Assembly held in Buenos Aires in 1991, that the astronomical potential of Antarctica was recognised formally by the international scientific community. It was within this context that the establishment of a working group to 'encourage international cooperation' in site testing was first discussed at a multilateral level.[36] These discussions evolved into collaborative meetings between French and Australian institutes and laboratories (as well as between individual scientists) throughout the 1990s.

France and Italy both demonstrate a longstanding interest and commitment to astronomy as a scientific discipline.[37] In 'extending their involvement with

[34] La Commission Euroéenne, "Une Vision Européenne pour la Recherche Polaire," 20.
[35] Hureau, "L'Antarctique, un continent voué à la science?" 170.
[36] ARENA Consortium, "A Vision for European Astronomy," 17.
[37] Italian research teams established a sub-millimeter wave antenna at Mario Zucchelli station in 1986.

this emerging science' in Antarctica, both nations greatly enhance their potential to 'promote their scientific influence,' whilst also 'extending their inland occupation' in Antarctica.[38] With France having been active in the field of astrophysical research in the sub-Antarctic region since the 1960s, the creation of Concordia Station now enables France to build on this tradition, by establishing what would be the first European observatory on the Antarctic continent. Furthermore, Concordia provides for the potential future development of an international scale astronomical program at the site. With this in mind, and in order to examine the full potential of Concordia as a site at which to pursue astronomical research, a consortium of states interested in pursuing the astronomy at Concordia was developed.

Just as the conditions at Dome C have enabled scientists to obtain ground breaking information on the history of the Earth's climate through deep ice core drilling, they are also allowing astronomers and cosmologists to theorise and begin answering important questions relating to the early evolution of the universe. Most noteworthy to date, has been the development of "Antarctic Research, a European Network for Astrophysics" (ARENA) – a 1.4 million euro project approved and financed by the European Commission as a Coordination Action of the Research Infrastructures Programme under the Framework Six Programme (FP6), and also within the context of the EPC.[39]

[38] Ellie Fogarty, "Antarctica: Assessing and Protecting Australia's National Interests," *Policy Brief (*Sydney: Lowy Institute for International Policy, 2011): 9.
[39] ARENA Consortium, "PLT Proposal," 6.

ARENA is a consortium of twenty-two European and Australian partners, comprising various polar institutes, research laboratories and industrial companies from seven EU member states, including France.[40] The initiative brings together over one hundred international expert personnel, and is coordinated by the H. Fizeau *CNRS* laboratory, at the University of Nice Sophia Antipolis, France. Key participating French institutions included, the *CNRS,* the *IPEV*, *l'Observatoire de Paris,* and the *Commissariat a l'Energie Atomoqique (CEA).*

Commenced in 2006 as a four-year initiative, ARENA overlapped the 2007/08 IPY, and provided an important scientific platform for discussion within the IPY context.[41] With its main purpose to examine the astronomical potential of the Dome C site, ARENA was responsible for developing a 'roadmap' to provide the necessary information on which to base a 'world class polar astronomical observatory.'[42]

In order to enhance cooperation and coordination surrounding astronomical research, representatives of the four main European agencies involved in astronomy at Dome C held a meeting in Paris in May 2008.[43] This meeting highlighted the need to strengthen French-Italian cooperation at Concordia in advance of pursuing new European or international partnerships. The acknowledgement of this point is highly important, as the main objective of ARENA is to initiate wider European, as well as international interest in

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[40] Other participating nations are Belgium, Germany, Italy, Portugal, Spain, the United Kingdom, as well as Australia. See, Eric Fossat, "Stella Antarctica: vers un Observatoire Astronomique International à Concordia," *IPEV Rapport d'Activité 2008* (Brest: *l'IPEV*, 2008): 18.

[41] Nicolas Epchtein and Hans Zinnecker (on behalf of the ARENA Consortium), "The ARENA Roadmap," *Highlights of Astronomy*, ed. Ian F. Corbett, 622-624 (IAU, 2009).

[42] ARENA Consortium, "PLT Proposal," 6.

[43] The main agencies involved are *INAF, PNRA, INSU* and the *IPEV*. See, ARENA Consortium, "Minutes of the 5th ARENA CMC Meeting" (22 September 2008, Nice, France).

conducting astronomy at Dome C, and to encourage the involvement of new partners. Following several international meetings held between 2006 and 2008, the ARENA roadmap endorsed and advocated the establishment of a European observatory at Dome C.

The development of international multilateral networking platforms such as ARENA, facilitates communication and networking at the agency level between relevant states, and importantly opens up the door to wider cooperation and the development of global research networks. In turn, this enables interested actors to identify major collective objectives, and potential mutual benefits of cooperative engagement.

A key recommendation of the ARENA Executive Committee has been the development of a Polar large telescope (PLT) at Dome C. Collaboration between European and Australian research teams has resulted in the proposal for construction of a PLT at Dome C. The design study phase of the project resulted in the development of an international consortium comprised of European and Australian research laboratories, institutes, as well as industrial companies.[44] With a number of European nations occupying a leadership position in astronomy, and also playing significant roles in polar affairs (indeed, the two operators and managers of Concordia Station are EU member states), the design study for the estimated 16 million euros PLT project intended to come within the framework of the European Community under Framework Program 7 (FP7).[45]

[44] ARENA Consortium, "PLT Proposal," 8.
[45] The project brings together a total of six organisations from Australia, France, Germany, Italy, Norway, and the United Kingdom.

France has been highly involved with the vast majority of stages undertaken for the PLT design study project, and continues to play an integral role in the development, realisation and management of the PLT project. The role of the *IPEV* has been crucial to maintaining France's high level of participation in the project. 'As one of the two operators of Concordia, the *IPEV* will participate in the definition, management and control of all the activities related to the implementation of the PLT,' including the eventual dismantling of the instrument.[46] With three of the ten participating partner organisations being French – the *CNRS* (also the agency responsible for coordinating the activity), the *IPEV*, and *SAFRAN (Sagem Defense Securité – REOSC),*[47] France is playing a key role in providing expertise and technical advice in the design study phase.

A summary of the staff effort provided in the PLT design study report clearly draws attention to the commitment and immense contribution France has made to the establishment of an astronomy program at Dome C. The three participating French agencies have been active across sixteen of the twenty-seven work stages, and account for just under half of the some 480 staff involved in the project. The majority of French staff are drawn from the three participating *CNRS* laboratories, with the *IPEV* and Safran[48] accounting for the remainder.

From the Italian side, while the *ENEA* is undergoing reorganisation in relation to its polar agenda, it is not formally associated with the PLT project proposal at the present time. Due to the fact that the *IPEV* and the *ENEA* share the management and use of logistics at Concordia, as well as divide the

[46] ARENA Consortium, "PLT Proposal," 66.
[47] A French technology conglomerate.
[48] ARENA Consortium, "PLT Proposal," 52.

financial costs, it is highly important that the *ENEA* participates in the PLT project as soon as possible in order to limit the financial pressure on France.[49]

With the construction of the PLT planned at Concordia, the primary competencies of the *IPEV* in relation to the PLT study are concerned with on-site operations. Since 2000, France, Italy and Australia have collaborated extensively as one of six specialised working groups in undertaking preliminary site assessments and experiments at Dome C.[50] Research teams from the *CNRS*, the University of Nice Sophia Antipolis (through the Fizeau Laboratory), the Italian Institute of Astrophysics (*INAF*), and the University of New South Wales (UNSW) in Australia, have pursued an ongoing campaign aimed at testing and qualifying the Concordia site for potential atmospheric study. These collaborative efforts contributed to highlighting the ideal meteorological conditions at Dome C.

Financing of the PLT design study is to be arranged through a consortium agreement in order to organise and manage 'legal, scientific, technical and programmatic cooperation' between participants.[51] Additionally, the PLT project has wider implications for Europe's (and therefore France's) position in polar research – as the design study also addresses the 'administrative and legal framework of a European Research Infrastructure Consortium (ERIC),' and has the potential to own and operate the new research infrastructure in the future.[52]

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[49]Ibid.

[50] Nicolas Epchtein, "Astrophysics from Antarctica: Introduction to the Workshop," presentation on behalf of the ARENA and PLT Consortia to the Workshop Astro-Antarctica (14-15 September 2011, Marseille): 5.

[51] ARENA Consortium, "PLT Proposal," 80.

[52] Ibid, 12.

Completion of the PLT is planned for 2018, with a Phase B study to be undertaken between 2010 and 2013.[53] The ARENA roadmap confirms that despite the quantity of valuable programs identified by ARENA, due to economic constraints faced by a number of European nations at the European level the PLT project is currently the only mid-range cost project that could be realistically implemented within the next decade. Furthermore, the roadmap highlights the fundamental importance of 'strong and sustainable international cooperation' in order to successfully undertake the PLT project.[54]

- *Geoscience at Concordia*

Due to its considerable distance from the Antarctic coast, Concordia provides a suitable site for the development of seismology and magnetic scientific programs. The seismology program at Concordia is co-jointly managed by the *IPEV* and the *PNRA*. The principal goals of the program include the establishment of a permanent seismic station, as well as a temporary seismic array at Concordia, in order to enhance the study of the Earth's structure. Importantly, the development of a station would contribute to and complement the global seismological network in a region characterised by lack of coverage. As part of the international network of magnetic observatories, there is already a seismic observatory established at Dumont d'Urville Station. France intends for this network to be extended, with the installation of an observatory at Dome C as well.

Concordia, Antarctica, Seismic Experiment for the International Polar Year (CASE-IPY), formed part of a wider IPY project initiative – the Polar earth

[53] ARENA Consortium, "A Vision for European Astronomy," 8.
[54] Ibid.

Observing Network (POLENET). This network comprises twenty-four countries (including France) as a consortium to coordinate research activities in the field of polar geodynamic studies. Funds to cover the cost of France's participation in CASE-IPY is provided by the *Agence National de la Recherche (ANR),*[55] while the *IPEV* is the agency responsible for providing the necessary logistical support and expertise.

In implementing seismometers in East Antarctica, the *IPEV* intends to cooperate with its key foreign partners to coordinate the actions of other participating agencies, and to share logistical support in order to ensure the maximum coverage of the East Antarctic plateau. For example, the *IPEV* and the *PNRA* jointly supported the 'seismology at Concordia' project, which involves the construction of a second seismologic observatory at the site. This station has been constructed over the course of six consecutive summer campaigns in conjunction with the scientific base.[56] Another recent project including French cooperation is TASTE-IDEA – 2011. Intended to complement CASE-IPY, this project involves French scientists undertaking seismology research between Concordia and Russia's Vostok Station, in order to contribute to the seismic profiles and observations recorded by other states in other Antarctic sectors.

A number of projects adapted to the logistics at Concordia are currently under study, or in various stages of progress. As of 2008, two Italian instruments – the international robotic infrared telescope (IRAIT) and the Antarctic Multiband Infrared Camera (AMICA) are operational at Dome C,

[55] France's National Research Agency.
[56] Alessia Maggi and Jean-Jacques Leveque, "Des Stations Seismologiques en Antarçtique. *IPEV Rapport d'Activitie 2008* (Brest: *l'IPEV*, 2008): 22.

and in 2009, the *CNRS* installed an automatic telescope for detecting extra solar planets.[57]

Enhancing the European dimension at Concordia

The capacity to undertake successful polar research is increasingly dependent upon a high level of international cooperation. In establishing Concordia, France sought to strengthen collaborative ties with key European partners. Its rationale for doing so is two fold – a permanent base at the interior of the continent would enhance the overall Antarctic presence of the EU. This would also more importantly secure France's political interests in the region by reaffirming the permanency of its presence in Antarctica.

In terms of widening European polar research, France and Italy are open to the development of a trilateral cooperative project with Germany, given its membership as a European ATCP, as well as its position as a state that possesses significant critical mass in terms of polar expertise and resources. This may result in not only German involvement at Concordia, but also the Italians joining the Franco-German base in Ny-Alesund on Spitsbergen, in the Arctic. The French-German-Italian trilateral process has been underway for several years, with the signing of an initial agreement for the development of a tripartite research program at Concordia – albeit limited to specific research on tropospheric aerosols and cloud cover.[58] Nevertheless,

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[57] Mathieu Grousson, "Antarctica: An Ideal Observational Outpost," *CNRS International Magazine,* 6 (2007): 25.

[58] Christian Gaudin, "French Polar Research, Report on France's Position with Regard to the International Issues Surrounding Polar Research: The case of Antarctica," *OPESCT,* 230 (Paris: Parliamentary Office for the Evaluation of Scientific and Technologic Choices, 2006-2007); Christian Gaudin, personal communication, 31 May 2011, Paris, France; Antoine Guichard, personal communication, 1 June 2011, Paris, France.

due to the economic challenges and constraints currently faced by Europe, the future of this process currently remains uncertain.

Having expressed interest in participating scientifically and operationally at Concordia, and capable of strengthening the overall European presence in Antarctica, Spain may also represents a potential third party that could be included in activities at Concordia.[59] At the same time, France recognises the importance of remaining open to the possibility of other forms of cooperation – both with other interested European States (including those with smaller, less advanced Antarctic programs), as well as other non-European nations involved in Antarctic affairs.

In considering French, and more broadly, European involvement in astronomy at Concordia, site testing and qualifications by both European and international astronomy teams throughout the 2000s provided an indication of Concordia's strong potential to host the development of space based research projects. A report published by Europe's FP6, confirmed that Concordia could potentially even challenge future space missions by enabling the deployment of larger astronomical equipment at lower costs. European laboratories and institutes were further prompted to pursue astronomical projects that aimed to take full advantage of Concordia's unique atmospheric characteristics, following the reporting of positive visibility results at Dome C by an Australian research team in 2005. This led to the creation of a network of interested European nations, which also extended to include Australia. The network intended to promote, and work toward the establishment of an international observatory at Concordia over

[59] Gaudin, "French Polar Research," 109.

the next ten years.[60] The ARENA roadmap has been integral in outlining the steps necessary to ensure Concordia develops into an international Antarctic observatory over the next decade. Since 2006, ARENA has assisted in coordinating the ideas of European laboratories to further develop the future of astronomical observation in Antarctica.[61]

Fundamentally, the roadmap envisages the creation of a European Centre for Astrophysics in Antarctica, based upon the model of existing multinational organisations. Currently, discussions are taking place within the ARENA consortium in relation to the future of astronomy at Concordia. In working towards an international policy for the management and operation of astronomical activities at Concordia, questions are being raised within the ARENA framework regarding the strategies necessary to initiate motivation, and enhance capacity within Europe.

Concordia has also demonstrated potential as a valuable sight for researching cosmic background radiation. In this regard, French and Italian agencies have cooperated on a project to measure variations in cosmic microwave background (CMB) research at Concordia, and have been working together on preliminary studies aimed at the implementation of the Antarctic Sub-millimetre Telescope.[62] In order to pursue this project, the French-Italian Consortium was developed. This cooperation has been

[60] ARENA Consortium, "ARENA, A European Network for Astrophysics in Antarctica – at the Antarctic station Concordia, Dome C: in the next decade 2010-2020," prepared by the ARENA Consortium (in fulfillment of EC-FP6), http://arena.unice.fr/.
[61] Epchtein and Zinnecker (ARENA Consortium), "The ARENA Roadmap," 623.
[62] The French agencies involved in CMB research at Concordia are ThalesAleniaSpace, the *CEA,* and Saclay. The participating Italian agency is *INAF-IEE* (*Instituto di Astrofisica Spaziale e Fisica Cosmica – IEE*).

widened with the creation of a CMB working group – comprising, France, Italy, Ireland, the United Kingdom, and the United States.[63]

Establishing an international research platform at Concordia

Ultimately, France and Italy aim to internationalise Concordia by opening the station up to the international scientific community – particularly in relation to the domains in which it excels. To date, Concordia has demonstrated excellent potential to provide the logistical and infrastructural support to long-term international scientific programs, and enables the international scientific community to pursue research programs through a continually widening variety of disciplines. Not only has the establishment of Concordia consolidated bilateral scientific and technological cooperation between France and Italy, it has opened the door to international involvement at a variety of levels. In light of the economic constraints currently experienced by a number of European nations, and given the significant costs associated with undertaking activities in the Antarctic region (for European nations in particular), opening up Concordia to wider international participation is considered by France to be a priority.

The establishment of inter-agency, multi-national networking channels significantly contributes to the development of a wider international Antarctic science framework. In shaping a strategic plan for the establishment of an astronomical observatory at Concordia, the context of the IPY enabled multilateral dialogue, facilitated coordinated inter-agency networking actions between national research agencies at the international level, and significantly contributed to the development of a wider

[63] ARENA Consortium, "A Vision for European Astronomy," 9.

international Antarctic science framework. This assists France in identifying areas of mutual interest with prospective partners for collaborative projects, enables the sharing of expertise and logistical support, and importantly, contributes to the development of coherent collective policies for the future of Antarctic science internationally. For example, several French, as well as international research teams (notably, those from Australia, China, Germany, Italy and the UK) have expressed interest in participating in the development of a multi-national astronomy program at Dome C, and have taken initial steps toward establishing cooperation in this area in recent years.[64]

Commencing in 2000, STELLA ANTARCTICA (STELLA) was a multilateral IPY program that intended to gauge both the suitability and feasibility of Concordia as a site for the establishment of a future international astronomy program. STELLA involved nine nations undertaking experimentation and testing activities, and participating in international forums, in order to work towards the development of an international observatory at Concordia.[65]

France was a major contributor to this IPY project, with French scientist, Eric Fossat, from the University of Nice, Activity Leader for the STELLA initiative. In order to develop an observatory at Concordia, the plan first needed to be endorsed by a consortium of national and international agencies, with funding arrangements ensured by FP7 and/or bilateral agreements with non-EU Members. Utilisation of the current infrastructure at Concordia, and the support of existing French-Italian logistics was also necessary. It was foreseen that a project aimed at the European level could cost in the vicinity of 10-20 million euros over the next five to ten years.

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[64] STELLA ANTARCTICA, "Proposal for International Polar Year 2007-2008 Activities," Activity ID n° 385 (2007).
[65] France (activity leader for STELLA ANTARCTICA), Australia, Belgium, Germany, Italy, Portugal, Spain, the United Kingdom, and the United States.

STELLA would be organised and managed by a Scientific Advisory Board that already exists in the framework of the ARENA Consortium.[66] ARENA provided the necessary 'impetus' to develop the 'international consortia' required to undertake preparatory studies on potential future projects, such as the establishment of a program for an international astronomical observatory. [67]

From the European side, STELLA involves the ARENA network (funded by the EU, and led by Nicolas Epchtein), and a site-testing component (funded by the *ANR*, and led by French scientist Jean Vernin). French activities are overseen by the Astronomy at Dome C Committee (ADC), established by the *Institut National des Sciences de l'Univers (INSU)*.[68] The polar research institutes and astronomical bodies involved at Concordia – the *IPEV* and *INSU* on the French side, and the *PNRA* and the *INAF* on the Italian side, collaborated with the ARENA consortium to explore the possibility of formally internationalising Concordia by broadening the scope of formalised collaboration at Concordia to a wider network of participants. The development of an international astronomical observatory at the Dome C site would involve a high level of French participation, with the necessary logistics support principally provided by the *IPEV* and the *PNRA*, and site testing, experimentation and coordination activities undertaken by relevant national agencies such as the *INSU, ANR, PNRA* and *INAF*. Funding would

[66] This Board is comprised of experts from the United States. Additionally, STELLA would have a management board including representatives of the polar operators, the funding agencies expressing interest in the initiative, as well as experts from the nations participating in ARENA.
[67] ARENA Consortium, "A Vision for European Astronomy," 7.
[68] In their capacity as ARENA partners, the Italian agencies involved in activities are the *Commissione Scientifica Nazionale per l'Antartid*e *(CSNA),* the *PNRA*, the National Institute for Astrophysics (INAF), and the University of Perugia.

be provided through the European Commission as part of the ARENA network.

A second, and more ambitious long-term international initiative conceived under the ARENA framework, involved planning the development of a global astronomy project, estimated to cost between 500 and 100 million euros. Such an undertaking would require a re-evaluation of existing logistical capabilities at Concordia, and would therefore be envisaged for development over the next two decades. This would place Concordia at the forefront of worldwide astronomical research, and enable international experts to begin addressing major questions about the Earth's systems, and ultimately the universe, that presently remain unanswered.

In January 2010, the ARENA network released the report, 'Vision for European Astronomy and Astrophysics at the Antarctic station Concordia/Dome C in the next decade 2010-2020.'[69] Based on the research undertaken within the ARENA framework period 2006-2009, this report outlines a long term strategic plan for the development of a world class observatory at Concordia, and has been submitted to both relevant national and international research agencies, as well as the European Commission.

It is important to note that astronomy now accounts for half of the winter-over activities conducted at Concordia. With the total annual budget for Concordia at six to eight million euros, two million euros per nation are dedicated to astronomy.[70] However, in spite of the increasing emphasis placed on pursuing cooperative programmes in Antarctica, the possibility for the future internationalisation of Concordia station is severely jeopardised by

[69] ARENA Consortium, "A Vision for European Astronomy," 10.
[70] ARENA Consortium, "Minutes of the 5th ARENA CMC Meeting," 7.

an overall lack of substantial, and ongoing collaborative projects, as well as a lack of available funding. The ARENA roadmap concluded that 'the present situation [in terms of funding support for Antarctic astronomical research] is far from being satisfactory.'[71] In order to realise the goal of internationalisation of Concordia in the field of astronomy, it is essential to establish 'vigorous,' and ongoing support from both national and international research agencies based on a foundation of bilateral and multilateral cooperative agreements.[72]

The success of large-scale multilateral projects such as EPICA, and the PLT remains dependant upon the capacity of the programs created around these projects to initiate and sustain multilevel cooperation between nations. The PLT project would significantly enhance the capacity of France and Italy to move towards cementing the reputation of Concordia as an international astronomical facility. The expertise and knowledge gained through projects such as the PLT, has the capacity to be shared more widely among other nations attempting to, or in the process of establishing astronomical projects. It also serves as a structural framework upon which to model other multilateral science programs that necessitate vast collaborative efforts.

France, Concordia, and the future

In conjunction with Italy, France recognises the need to develop a two-phase strategy for strengthening their position at Dome C. First, increasing emphasis on pursuing programs of scientific excellence that require limited logistical resources; and second, improving the logistical capacity of Concordia in order to accept larger, multi-disciplinary projects in the future.

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[71] ARENA Consortium, "Vision for European Astronomy," 10.
[72] Ibid.

Both these steps include widening the scope of not only European research ventures, but also those that provide a gateway to international research activities.

Concordia clearly demonstrates strong capacity as a multi-disciplinary research station, capable of expanding the scope of European, as well as international research activities in a number of key areas. For example, international astronomers are currently considering Antarctica's potential for the study of outer space, and are exploring networks between European laboratories and institutes, in conjunction with other international operators interested in participating in projects planned over the next decade.

France, through it various national research agencies, is well equipped with expertise and experience in various polar science disciplines to ensure the future internationalisation of Concordia. However, given resource and financial constraints faced by a number of European nations (as well as more broadly within the EU), France's capacity to achieve its key scientific goals (particularly in the new and emerging sciences requiring significant logistical resources) is to a considerable extent, dependent upon the ability to engage effective and sustained international cooperation. In the first instance this involves strengthening engagement with Italy as its key bilateral partner at Concordia, but also requires wider cooperation with other European states. Crucially, in order for Concordia to internationalise fully, it will be necessary for France and Italy to cooperate and pursue partnerships with international counterparts with whom France recognises mutual interests and goals.

While France and Italy aim to consolidate their cooperative efforts, and enhance policy coordination regarding astronomy and other sciences at Concordia – for example, undertaking construction of new platforms, and a

new building for the French-Italian astronomical consortium Irait-Cochise-Amica-Camistic,' the ARENA roadmap draws attention to an evident 'deficit of collaborative programmes between the two countries of Concordia.'[73] Although France and Italy continue to cooperate on numerous bilateral and multilateral projects in a variety of disciplines, currently, the nature of the projects is generally small scale – and ultimately insufficient to place Concordia on the international scientific map.

In order to open Concordia to the wider international scientific community, France and Italy recognise the importance of continuing to strengthen collaboration, and set a high 'cooperative bilateral benchmark' as an incentive for other nations to participate at Concordia. To secure the future of astronomical research in Antarctica, and to realise the full scientific potential of Concordia, the ARENA network highlights the fundamental importance of 'fostering European and international collaboration,' in achieving the key objectives set out by the roadmap.[74]

Recognising the importance of encouraging international cooperation (particularly with nations demonstrating promising astronomical programs such as Australia, and China) through the establishment of a wider international consortium, France hosted a workshop in September 2011 with the aim of discussing the establishment of a potential collaborative international project. This involved both national and international agency participation (researchers and engineers from Australia, China, and Italy), as well as the European Commission.[75]

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[73] ARENA Consortium, "PLT Proposal," 66.
[74] ARENA Consortium, "A Vision for European Astronomy," 10.
[75] Lyu Abe, Nicolas Epchtein, Charling Tao, and Andre Tilquin, "Astrophysics in Antarctica," presentation at *Astrophysics in Antarctica Workshop* (14-15 September 2011, CPPM, Marseilles, France,).

Within the ARENA context, meetings and forums aimed at pooling knowledge and expertise across agencies have identified the need to 'aggregate a critical mass of resources' in order to raise the status of Concordia to a 'European Research Infrastructure.'[76] Importantly, the pursuit of cooperation among states involved in astronomical research activities in Antarctica would significantly facilitate the realisation of the creation of an observatory at Dome C, enhance the international dimension of Concordia, and would contribute towards shaping a global policy on Antarctic astronomy.[77]

The development of international astronomical projects involving the construction of large-scale astronomical instruments necessitates a high level of multilateral cooperation. Such ventures have as yet, not been proven to be undertaken successfully by a single state.[78] While the existing logistical infrastructure at Dome C is adequate to accommodate the construction of a large-scale instrument, the period of construction necessary to realise such a project would occupy a significant proportion of the time and resources of the *IPEV* and *ENEA,* and would most likely impact upon the capacity for France and Italy to pursue other scientific activities and projects they are already engaged in, or plan to undertake in the near future.

Astronomy projects in Antarctica involve 'big science' – meaning projects that require one billion to multi billions of dollars in funding. In the current European economic climate, it is proving increasingly problematic to achieve

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[76] Hans Zinnecker, Nicolas Epchtein, and Heike Rauer, "Summary and Conclusions of ARENA-2," *ARENA Conference on The Astrophysical Science Cases at Dome C*, 33 (EAS Publications Series, 2008): 313.
[77] Epchtein and Zinnecker, "The ARENA Roadmap," 624.
[78] Abe, et al., "Astrophysics in Antarctica," 2.

the realisation of such costly scientific ventures – even in the instances where these projects involve the cooperation, and the pooling of financial and logistical resources of several nations. The capacity of European nations to pursue large-scale research projects is jeopardised due to a substantial lack of financial support at, in particular, the EU level.

It is important to note that in spite of the significant level of influence the European Commission exerts on the European scientific research community, in terms of shaping the national research agendas of member states, its overall fiscal contribution is relatively minor. For example, in 2009 the European Commission allocated only three percent of the entire European science budget of US $308.2 billion to Antarctic science.[79] As a result, the development of long term, large scale projects in the Antarctic is becoming increasingly challenging – particularly for European nations. Importantly, France, at sixteen percent, is the second largest national contributor to the provision of funding for Antarctic science within Europe, being preceded by Germany at twenty-seven percent, and followed by the UK at thirteen percent.

In recent years, increasing interest in Antarctic science has been demonstrated by a number of new and emerging Antarctic Treaty Parties – China being the most notable example. This phenomenon is placing increasing pressure upon longstanding ATCPs, such as France, to keep pace with advances in scientific and technological developments, and to consider and counteract potential geopolitical and geostrategic concerns arising from these nations permanently establishing themselves on the continent. China's current activities at Kunlun Station at Dome A, represent potential new

[79] Epchtein, "Astrophysics from Antarctica," 9.

challenges to the development of an international European astronomy platform in the Antarctic – particularly given that China, unlike Europe, is not currently facing the same funding constraints.

The fact that Concordia has been identified as one of, if not the most, ideal astronomical observation sites in the world, and considering that China is currently in the process of establishing an Antarctic Astronomy Centre at Dome A, Europe (if it wishes to remain at the forefront of contemporary Antarctic research), and France (if it wishes to consolidate its regional presence), must maintain a leadership role in scientific domains, and commit the necessary resources to ensure the achievement of an international astronomy infrastructure at Concordia.

Epchtein notes that it is vital for ATCPs to factor in the participation of these emerging nations in regard to the potential to realise both mid to large-scale scientific projects in Antarctica in the future – particularly where these projects are located at the interior of the continent.[80] Presently, it appears that China will most likely be the first nation to undertake a major astronomy project in Antarctica. China's impressive Antarctic program (which includes the construction of several telescopes at Kunlun Station – one of which is estimated at a total cost of US $150 million),[81] would significantly 'give it a leg-up' over other nations undertaking astronomical activities.[82] With Kunlun Station located approximately 200 kilometres away from Concordia, France is contemplating possible new joint ventures with China – particularly as the PLT intended for installation by the European-Australian

[80] Epchtein, "Astrophysics from Antarctica," 9.
[81] The Kunlun Dark Universe Survey Telescope (KDUST).
[82] Storey cited in T. Feder, "China is latest country to pursue astronomy in Antarctica," 22.

consortium would be similar to the one planned for implementation at Kunlun Station.[83]

Epchtein states that despite the fact that 'Dome C is the only place where one can expect to undertake outstanding programmes of astronomy in Antarctica in the next decade,'[84] Antarctic astronomy is not considered 'mature enough' by European and Australian agencies 'to engage big money in it.'[85] Furthermore, a severe lack of funding on behalf of the European Commission, coupled with significant financial constraints currently faced by a number of European nations, has serious implications for the potential future development of astronomy at Dome C. This has resulted in many of the proposed projects under ARENA being placed on standby, with the exception of the smaller instruments that are already in use on site. For example, although the PLT design study is a scientifically robust proposal and received initial support following evaluation by the European Commission expert panel, the guarantee of funding at the European level remains uncertain.[86]

Conclusions drawn from the Astro-Antarctic Workshop held in Marseille, France, in September 2011, point to the significant value of developing a global astronomical consortium including European nations, as well as the United States, Australia, and China, in order to explore ways of developing a critical mass of expertise and financial support.

[83] T. Feder, "China is latest country to pursue astronomy in Antarctica," 23.
[84] Ibid.
[85] Abe et al., "Astrophysics in Antarctica," 12.
[86] Ibid, 2.

Conclusion

Although there are currently sixty-eight scientific bases operational in Antarctica, Concordia comprises one of only two permanent interior continental research stations.[87] It is a prominent example of a highly successful partnership between two European ATCPs based on a bilateral agreement aimed at scientific and technological cooperation in the Antarctic. Furthermore, this bilateral arrangement is widening and strengthening cooperative and collaborative opportunities to harness the engagement of the wider international scientific community.

The development of a station jointly managed and operated with a European partner, highlights the emphasis France places on promoting and strengthening Europe's Antarctic dimension, and also qualifies its commitment to pursuing excellence across a broad spectrum of high level scientific domains.[88] Described as a 'unique collaborative venture,' Concordia Station has demonstrated strong potential to place Europe, and therefore France, at the forefront of international Antarctic science[89] –providing one of the two sites selected for EPICA, and has more recently undergone initial site testing for the launch of an international astronomy program.

Contemporary Antarctic research necessitates a vast collaborative effort between nations that share the goal of furthering our collective knowledge and understanding of the region. While the operation and management of

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[87] Mathieu Demarthon, "International Polar Year – Spotlight on the Poles," *CNRS International Magazine*, 6 (2007): 18-23.
[88] European Science Foundation (ESF), "ESF's European Ice Core Project EPICA Receives Prestigious Descartes Prize," *Press Release* (12 March 2008): 1.
[89] Dastidar and Persson, "Mapping the global structure of Antarctic research," 1552.

Concordia remains the responsibility of France and Italy, the scope of the multi-national activities taking place at the station indicates that Concordia is on the precipice of internationalisation. Fundamentally, this is occurring through an increasing presence and participation of other European States at Concordia – particularly, Germany, Spain, the UK, and Norway. This enhanced participation contributes to securing Europe's position at the forefront of international scientific collaboration in the Antarctic. At the same time, France and Italy are increasingly extending research support to the wider international scientific community through the facilitation and encouragement of developing research networks at bilateral and multilateral levels.

Concordia Station represents a valuable 'opportunity' for both Europe, as well as more broadly, international collaborators, to develop a year round operational astronomical facility. As one of the two partners at Concordia station, France would be set to benefit significantly from the development of such an initiative.

The development of France's bilateral partnership with Italy initiated the development of the first permanently occupied joint station at the interior of the continent. This highly successful and unique institutional arrangement constitutes a new, and innovative development within the ATS. By opening up new avenues of research activities that have previously been unachievable – for example, in the fields of climatology, astronomy and geoscience), Concordia has proven to be a successful pioneer project in Antarctica, and a demonstrable example of France's capacity to pursue an effective bilateral agreement that has since spawned a wide spectrum of multi-national interest and participation.

The success of France's bilateral agreement with Italy continues to yield important cooperative outcomes at the international level. Importantly, it sets a valuable example for other ATCPs, that may, (based on the apparent success of Concordia) choose to develop similar agreements themselves in the future. France's bilateral partnership with Italy (and more widely, the expansion of international scientific and technological initiatives currently taking place at Dome C), clearly demonstrates both France's strong commitment to bilateral cooperation, as well as more broadly, to the scientific interests of Antarctica. While the future of a number of planned projects at Concordia hang in the balance due to financial challenges, thereby threatening the potential for complete internationalisation of the station, France and Italy remain cooperative and committed partners in ensuring that Concordia reaches its full potential.[90]

[90] Michael Stoddart, personal communication (6 October 2011, Hobart).

5. France, Australia and bilateral cooperation in the Southern Ocean

France and Australia share fundamental interests in the Antarctic and Southern Ocean region. In recent years, this intersection of interests has led to a formal strengthening of bilateral ties – most notably, in regard to the recognised need to address the serious problem of illegal, unreported and unregulated (IUU) fishing within their respective exclusive economic zones (EEZs), and the strengthening of collaboration in relation to both fisheries management, as well as scientific research. To pursue cooperative efforts in this regard and build upon their existing positive relations, France and Australia formalised their bilateral relationship through the establishment of an agreement on cooperative surveillance in 2003 (which in 2007 was supplemented by an additional agreement explicitly on the enforcement of fisheries laws). This Chapter outlines the nature, extent, and outcomes of French-Australian cooperation in the Antarctic and Southern Ocean region through the development of these two agreements – particularly in regard to the capacity to tackle IUU fishing successfully, improve the effectiveness of fisheries management, and enhance important fields of scientific research.

The first section of this Chapter explains the key areas of common interest demonstrated by France and Australia in the Antarctic and Southern Ocean that led to the decision to conclude two bilateral cooperative agreements. After briefly outlining France's Antarctic and sub-Antarctic territories as they relate to the geographical area encompassed under the two Agreements, the focus of the second section of this Chapter is centred upon identifying and explaining the motivating factors that led to the development of the bilateral cooperative agreements. Consideration is given to the key components of

these agreements – and in particular their practical, and contemporary operation. The final section is dedicated to identifying and explaining the key outcomes, and reflects on how the French-Australian bilateral Agreements have enhanced and facilitated cooperation and collaboration on key areas of mutual interest to France and Australia in the Antarctic and Southern Ocean region.

A foundation of common interests

France and Australia's close bilateral ties in the region are founded on several fundamentally similar, if not mutual, or overlapping interests. These include a variety of political (including sovereignty as well as geopolitical factors), environmental, scientific, and economic factors. Both France and Australia are original signatories to the Antarctic Treaty, claimant states to continental territory, and possess undisputed, neighbouring sub-Antarctic islands. They are active contributors to Antarctic Treaty Consultative Meetings (ATCM), and maintain a strong emphasis on upholding, and pursuing international scientific cooperation as a founding principle of the Treaty.

France and Australia have also cooperated extensively in regard to the development, and evolution of the ATS – both were key players in the negotiation and establishment of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), and were instrumental in the development of the Madrid Protocol. On both an individual, as well as a joint basis, France and Australia continue to demonstrate a significant commitment to the protection and conservation of Antarctica, and the marine living resources of the Southern Ocean region.

As claimants to Antarctic territory, as well as to sub-Antarctic islands, both France and Australia remain firmly focused on protecting their sovereign rights in these regions. France and Australia share neighbouring territory in Antarctica – France's Adelie Land claim intersects the Australian Antarctic Territory. Both nations also possess neighbouring island territories in the sub-Antarctic region – for France, the Kerguelen and Crozet Islands, and for Australia, the territory of Heard Island and McDonald Islands (HIMI). Both countries also lay claim to the adjacent maritime boundaries around their respective islands, including sections of the Kerguelen Plateau. Consequently, France and Australia share a significant interest in protecting valuable fishery resources in these regions, including the conservation of marine living resources and ecosystems.

(i) The intersection of interests

The geographic proximity of their respective territories has led to, and facilitated the development of a formalised legal platform upon which to pursue bilateral arrangements aimed at the effective, and efficient management of fishery and marine living resources. Over the last decade, France and Australia have collaborated extensively to address major and pressing issues of collective interest in the region. Most notable, the serious problem of IUU fishing, stock assessments and modelling studies on meta-populations of Patagonian toothfish, and other bilateral, and multilateral scientific research projects aimed at improving knowledge of the marine environment within their zones. An area in which France and Australia are currently pursuing close collaboration involves working toward the establishment of a marine protected area (MPA) for the East Antarctic sector.

With scientific research comprising the main activity undertaken in Antarctica, and also occupying a significant proportion of national agendas in the sub-Antarctic region, it is logical that France and Australia as claimants, share a strong commitment to cooperatively engage in scientific endeavours. This includes a sharing of expertise and information through collaborative projects and resource pooling by cooperating in terms of logistics, infrastructure, and technology. Such cooperative arrangements enhance the capacity of both nations to achieve their individual scientific agendas, strengthen their international scientific standing and credibility, and reinforce the permanency of their regional presence. Cooperation also enhances their ability to achieve the objectives of CCAMLR.

Logistics is another area in which France and Australia clearly recognise the mutual benefits of strengthening cooperative relations. From an economic perspective, the logistics and infrastructure necessary for implementing Antarctic programs (and undertaking surveillance and enforcement activities in the Southern Ocean) represent the most significant costs to national Antarctic agendas. This is especially the case for European nations, such as France – where the financial burden associated with undertaking Antarctic expeditions is significantly higher than those of other nations located geographically closer to the continent. For this reason, the city of Hobart provides the Antarctic gateway for not only Australia's Antarctic program, but is also the main port outside of France serving the French scientific and logistical expeditions to Dumont d'Urville Station.

In mutualising their means, France and Australia pursue initiatives aimed at minimising and reducing the costs associated with their activities in the region. Through resource pooling, joint surveillance and enforcement mechanisms, cooperative scientific research programs, and the sharing of the

necessary logistics, technology, infrastructure, facilities and expertise, both France and Australia enhance their capacity to achieve their key national interests in the Antarctic and Southern Ocean region.

Protecting the French and Australian sub-Antarctic territories

As a French overseas Territory, *les Terres australes et antarctiques français (TAAF)* comprises France's Antarctic claim (Adelie Land), as well as the *Terres australes* – three groups of islands located in the southern sector of the Indian Ocean.[1] Characterised by an abundance of unique biological and ecological diversity, these islands are considered extremely valuable not only in terms of commercial fishery resources, but also in relation to scientific research purposes. The waters surrounding France's sub-Antarctic maritime territories fall with the CCAMLR Convention Area,[2] as does the Australian HIMI region.

Under an *Administrateur Supérieur (Préfet),* the governmental institution of the *TAAF* is the competent authority responsible for the fisheries and ecological management of France's Southern and Antarctic Territories. Its area of responsibility also includes management of the fishery for Patagonian toothfish, off the EEZs of Kerguelen and Crozet islands.[3] The *Musée National*

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[1] Robert Genty, "Les Terres Australes Françaises," dans *Outre-Mer Français et Exploitation des Occéans*, Office de la Recherché Scientifique et Technique Outre-Mer (Paris, 1981): 83. In addition, see Chapter 2, pages 11-14 of this thesis for further information on France's overseas departments and territories in relation to the *TAAF.*

[2] The CCAMLR Convention Area extends beyond the geographic area encompassed within the Antarctic Treaty (60 Degrees South), and approximately follows the Antarctic Convergence (also known as the Polar Front).

[3] Décret n° 96-252 du 27 mars 1996, rélatif aux conditions d'exercice de la pêche maritime dans les Terres australes françaises et pris application de l'article 3 de la loi n° 66-400 du 18 juin 1966 sur l'exercice de la pêche maritime et l'exploitation des produits de la mer dans le Terres australes et antarctiques françaises; Arrêté n° 2001-21 du 29 juin 2001 modifié, relatif à l'exercice des fonctions de contrôleur de pêche dans les zones économiques des Terres

d'Histoire Naturelle (MNHN)[4] plays an integral role in providing scientific and technical advice and recommendations to the *TAAF*.[5]

Commercial fishing activities commenced around the Kerguelen Islands in 1955. Up until France's declaration of a 200 nautical mile EEZ off the Kerguelen Islands in 1978, the waters surrounding these Islands were principally exploited by foreign fishing vessels.[6] Throughout the 1960s and 1970s, Soviet, Japanese, and Polish vessels operated exploratory finfish fisheries in this area. Between 1970 and 1981, one hundred and thirty Soviet trawlers were active in the region.[7] Throughout this period, foreign vessels were not subject to any official constraints in regard to fisheries exploitation. To remedy this, France concluded several agreements with the Soviet Union (between 1979 and 1991), and then following the collapse of the Soviet Union, with Ukraine (between 1992 and 1998), that established specific regulations on fishing activities within the French zone.[8]

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australes françaises, *Journal Officiel des Terres australes et antarctiques françaises*, n° 10 (2ème trimestre 2001): 318.

[4] The French National Museum of Natural History.

[5] Such recommendations include the allocation of fishing quotas, measures aimed at limiting the by-catch of non-target species, incidental seabird mortality, and the observation of general environmental principles. See, André Oraison, "Les Incidences du Système Juridique Antarctique sue le Statut des Terres Australes et Antarctique Françaises (la souveraineté limitée de la France sur une collectivité territorial sui generis de la République," *Revue Belge de Droit International,* 52.1 (2006): 151-171.

[6] La loi n° 76.655 du 16 juillet 1976, relative à la zone économique au large des côtes du territoire de la République, *J.O.R.F.* n° 68 du 23 juillet 1977): 4872

[7] Soviet vessels harvested marbled rockcod, mackerel icefish and grey notothen. See, Guillaume Duhamel and Richard Williams, "History of whaling, sealing, fishery and aquaculture trials in the area of the Kerguelen Plateau," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries*, ed. Guillaume Duhamel and Dirk Welsford, 15-28 (Paris: SFI, 2011).

[8] Regulations included allocated catch limits, restrictions relating to the number of trawlers and long liners permitted to operate simultaneously, the designation of restricted areas, and the incorporation of measures aimed at enhancing knowledge of the fishery, such as the deployment of on board observers.

UNCLOS and the development of the exclusive economic zone

Entered into force in 1994, the United Nations Convention on the Law of the Sea (UNCLOS) is comprised of several key elements – including, but not limited to the establishment of economic jurisdiction; confirming the legal status of seabed resources in areas beyond national jurisdiction; the conservation and management of living marine resources; marine environmental protection; the development of a legally binding procedure for dispute settlement between states; and the classification of a new maritime space – a 200 nautical mile EEZ,[9] which was officially codified under UNCLOS in 1982.[10]

Consequently, UNCLOS made a 'decisive contribution' to the development of the concept of the EEZ in international law.[11] Article 55, defines the EEZ as 'an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.'[12] Under UNCLOS, the coastal State has the 'sovereign rights for the purposes of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to all other activities for the economic exploitation

[9] For further discussion on this, refer to Chapter 2 of this thesis.
[10] The concept of a 200 nautical mile EEZ first evolved under customary law during the late 1960s and 1970s. See, Caroline Dommen et Philippe Cullet, *Droit International de l'Environnement* (London: Kluwer Law International, 1998), 97; Patrick Daillier et A. Pellet, *Droit International Public* (Paris: Edition L.G.D.J., 2002), 1175-1183; Pierre-Marie Dupuy et Yann Kerbat, *Droit International Public* (Paris: Precis Dalloz, 2010), 734-738.
[11] Tullio Scovazzi and Tullio Treves, *World Treaties for the Protection of the Environment*, ed. Tullio Scovazzi, Tullio Treves, and Andrea Bianchi (Milan: Instituto Per L'Ambiente, 1992), 150. See also, Laurent Lucchini et Michel Voelckel, *Les Etats et la Mer: le Nationalisme Maritime* (Paris: La Documentation Française, 1977), 66-68.
[12] 21 ILM 1, 261(hereafter UNCLOS), Article 55.

and exploration of the zone, such as the production of energy from the water, currents and winds.'[13] Under Article 56 of the Convention, coastal States have jurisdiction 'as provided for in the relevant provisions' of UNCLOS, within a 200 nautical mile EEZ extending from the coastline of their territory, with regard to 'the establishment and use of artificial islands, installations and structures; natural resources; marine scientific research; and the protection and preservation of the marine environment.'[14]

The declaration of France's EEZ in 1978,[15] followed by the implementation of national fishery regulations, effectively brought an end to all unrestricted foreign fishing activities in the waters around its sub-Antarctic islands. The following year, Australia also proclaimed a 200 nautical mile EEZ around Heard and McDonald Islands (HIMI).[16] In establishing an EEZ around the *Terres australes,* France recognised the enhancement of several key national interests. Firstly, in declaring an EEZ around an overseas *territoire,* France effectively encompassed these territories and the adjacent waters as part of

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[13] UNCLOS, Article 56, paragraph 1(a). See also, Emmanuel Decaux, *Droit International Public* (Paris: Dalloz, 2010), 154.

[14] UNCLOS, Article 56, paragraph 1(b). Article 56 also covers the jurisdictional rights of coastal States concerning marine scientific research – the coastal State has 'the right to regulate, authorize, and conduct research activities in these areas and that scientific research shall be carried out with its consent.' See, Francisco O. Vicuna, *The Exclusive Economic Zone: Regime and Legal Nature under International Law* (Cambridge: Cambridge University Press, 1989), 24.

[15] France's EEZ surrounding its sub-Antarctic islands (covering a total area of 1 615 000km^2), as well as the *Îles Éparses* (covering a total area of 735 300km^2), together represent some twenty-three percent of the total surface of France's EEZs – after the United States, this constitutes the largest EEZ in the world. Christian Cointat, "Les Terres australes et antarctiques françaises, terrain de techerche privilégié," Projet de loi de finances pour 2011: Outre-mer, dossier législatif (18 novembre 2010); André Oraison, "La position et le role particulier de certains états dans le processus de protection du continent Antarctique – le cas spécifique de la france en sa double qualité d'Etat possessionné et d'Etat conservationiste," *Revue Juridique de l'Environnement,* 1 (2005): 147-162.

[16] Initially, HIMI was declared part of the Australian Fishing Zone (AFZ) in 1979, before becoming an EEZ in 1994. See, Dirk Welsford, Andrew Constable, and Gabrielle Nowra, "The Heard Island and McDonald Islands Marine Reserve and Conservation Zone – A model for Southern Ocean Marine Reserves?" in *The Kerguelen Plateau: Marine Ecosystem and Fisheries*, ed. Guillaume Duhamel and Dirk Welsford, 297-3304 (Paris: SFI, 2011).

metropolitan France – thereby significantly increasing the extent of its national territory, and reaffirming France's regional presence. France also recognised the importance of protecting its commercial fisheries interests within this zone, and confirmed its intention to develop a long-term fisheries policy in the region. This point was highlighted in the 'Future of French Maritime Fisheries' – a report established by France's Economic and Social Council.[17]

For France and Australia, the establishment of neighboring EEZs legally provided for the restriction of illegal fisheries across the Kerguelen Plateau. In addition, the development of a French-Australian bilateral cooperative research and monitoring program for the fisheries in these zones, consolidated efforts aimed at eliminating any illegal activities. It is important however, to take note of some of the differences between France and Australia's respective fisheries management processes. Australia did not develop fishery agreements with states that permitted fishing by foreign vessels in HIMI, as was the case for France. Unlike France's Kerguelen fishery, there were no active commercial fisheries around HIMI until survey work conducted by Australian scientists in the early 1990s, led to the discovery of commercially viable fish populations in 1997.

Since the late 1990s, only national vessels have operated in the French EEZs. Currently, seven national long-line fishing vessels harvesting Patagonian toothfish are operative on an annual basis around the Kerguelen Islands. The *TAAF*, through commissioning on-board observers to undertake data

[17] Lucchini et Voeckel, "Les Etats et la Mer," 361; Conseil Économique et Social, "Avis et rapports du Conseil Économique et Social" (16 juin 1976, Paris).

collection for both scientific research and commercial fishery purposes,[18] ensures one hundred percent observer coverage regarding the vessels operating in this area. The different types of data collected (including information on fishing gear employed, catches, tagging and sampling, as well as instances of vessel interactions with non-target species), are provided to the *MNHN* in Paris.

France, Australia, and a commitment to achieving the objectives of CCAMLR

Although France (as well as Australia) asserts sovereign and uncontested rights over its sub-Antarctic territories and respective maritime zones, it is important to note that these areas also fall within the CCAMLR zone of application. France prioritises both the conservation of marine biodiversity and ecosystems, as well as the sustainable exploitation of marine resources in the waters around its sub-Antarctic islands, and has demonstrated a strong commitment to these objectives since signing CCAMLR in 1980. To achieve the objectives of CCAMLR, France upholds a high level of scientific principles, pursues comprehensive research, and regularly reports its activities to the CCAMLR Scientific Committee and the Commission.

As active and committed CCAMLR Members, and possessing neighbouring territories within the CCAMLR zone of application, France and Australia share a strong interest in achieving the objectives of the Convention. For example, a key research priority area in which France and Australia continue to pursue close collaboration is the monitoring and study of both fisheries

[18] Nicolas Gasco, "Contributions to marine science by fishery observers in the French EEZ of Kerguelen," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries,* ed. Guillaume Duhamel and Dirk Welsford, 93-98 (Paris: SFI, 2011).

and climate change impacts on the status of Patagonian toothfish stocks, and ecosystems across the Kerguelen Plateau.

The Kerguelen Plateau

Located south of the Polar Front, in the Indian Ocean sector of the Southern Ocean, the Kerguelen Plateau is the largest sub-marine plateau in the world.[19] It emerges above sea level at two places – constituting the French Kerguelen Islands, to the north, and HIMI to the south. As a result, France and Australia technically share a common sub-marine, and maritime border in the Southern Ocean – with the EEZs of Kerguelen Island and HIMI both essentially covering part of the Kerguelen Plateau.[20]

An ecologically rich, fragile and diverse marine environment, the Kerguelen Plateau has a significantly high concentration of marine life. As a result, it has been subject to a significant amount of interest and activity since the Kerguelen Islands and Heard Island were first discovered in 1772, and 1833 respectively. Sealing and whaling endeavors occupied the period from the late eighteenth, to the first half of the nineteenth centuries, while oceanographic campaigns aimed at scientific observation and research, were the predominant focus during the second half of the nineteenth, and early twentieth centuries.

In spite of the significant number of vessels frequenting the region throughout the centuries, the conduct of marine surveys, and the collection

[19] The Plateau provides a natural barrier to the eastward flow of the Antarctic Circumpolar Current. See Young-Hyang Park, Nicolas Gasco, and Guy Duhamel, "Slope currents around the Kerguelen Islands from demersal longline fishing records," *Geophys. Res. Lett.*, 35 (2008): 1-4.

[20] Mer et Marine, "Océan Australe – l'Accord France-Australien sur la surveillance de la pêche ratifié," *Mer et Marine* (12 January 2011): 1.

and investigation of marine biological data on the Kerguelen Plateau remained severely limited until the mid twentieth century.[21] The first trawling survey was undertaken following the development of *Port-aux-Français* on Kerguelen Island into a marine and biological station in the late 1960s. This enabled France to complete the first basic methodological exploration of the Plateau.

With fisheries exploitation remaining unregulated across the Plateau until the mid 20th century, many marine species and dependent and associated ecosystems, suffered a significantly detrimental impact.[22] During this period, France conducted several marine surveys, and participated in the Biological Investigations on Marine Antarctic Systems and Stocks (BIOMASS) international research program that took place around the Kerguelen Plateau in the early 1980s.[23]

Providing a more efficient harvesting method, the introduction of long-line fishing methods in the mid 1980s contributed significantly to the over-

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[21] Jean-Claude Hureau, "Marine Research on the Kerguelen Plateau: from early scientific expeditions to current surveys under the CCAMLR objectives," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries,* ed. Guillaume Duhamel and Dirk Welsford, 5-13 (Paris: SFI, 2011).

[22] Soviet and Polish vessels operating trawlers across the Kerguelen Plateau throughout the 1960s and 1970s, harvested mainly mackerel ice fish and grey and marbled rock cod species. Both fur and elephant seal populations also suffered extreme exploitation throughout this period, with recovery of these species only commencing toward the end of the twentieth century. Due to severe periods of exploitation during both the nineteenth and twentieth centuries, humpback and southern right whale numbers still remain low, and these species are rarely found across the Plateau. In terms of fish stocks, marbled notothen, and grey notothen were severely over exploited, and current data indicates few signs of recovery. Currently, only Patagonian toothfish and mackerel icefish are at levels sustainable for commercial harvesting.

[23] BIOMASS (established in 1977, and concluded in 1991), was a program that intended to improve understanding on the ecology of the Southern Ocean. See, Richard Williams and Guillaume Duhamel, "Studies on the fish of the Indian Ocean Sector of the Southern Ocean during the BIOMASS Programme," in *Southern Ocean Ecology: the BIOMASS Perspective,* ed. S.Z. El-Sayed, 211-230 (Cambridge: Cambridge University Press, 1994): 211.

exploitation of fisheries resources. By 2001, trawling had been completely replaced by long-line vessels targeting toothfish within the French EEZ. On account of intensive regulated fishing, as well as a high incidence of IUU harvesting, many species were severely depleted, or became no longer commercially sustainable by the late 1980s.

In the early 1990s, interest in the Kerguelen EEZ experienced a resurgence with the discovery of commercial quantities of the highly lucrative Patagonian toothfish *(dissostichus eleginoides)*.[24] Stocks in this area 'constitute the most significant center of abundance of toothfish outside of the South Atlantic sector,'[25] with the largest fishery for this species operating across the Kerguelen Plateau.[26] In 2009, France accounted for 5000 tons of Patagonian toothfish harvested around the Kerguelen Islands, while Australia harvested 2 500 tons from around HIMI.[27] The abundance of stocks found in the waters surrounding the Kerguelen Islands and Heard Island (particularly across the Plateau), coupled with high market demand for the species, and a lack of comprehensive surveillance measures in the Southern Ocean region, led to a significantly high incidence of IUU fishing in the French and Australian EEZs throughout the second half of the 1990s and into the 2000s.[28]

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[24] Hereafter referred to as toothfish. Duhamel and Williams, "History of whaling," 22.
[25] Dirk Welsford et al., "Habitat use by Patagonian Toothfish (*Dissostichus eleginoides* Smitt 1898) on the Kerguelen Plateau around Heard Island and the McDonald Islands," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries,* ed. Guillaume Duhamel and Dirk Welsford, 125-136 (Paris: SFI, 2011).
[26] Karl Herman Kock, *Antarctic Fish and Fisheries* (Cambridge: Cambridge University Press, 1992), 359.
[27] Welsford et al., "Habitat use by Patagonian Toothfish," 125.
[28] The increasing incidence of IUU fishing for Patagonian toothfish (commonly referred to as "White Gold") in the Southern Ocean reflects the high value of the species, and the expansion of international markets trading in toothfish. Although the Patagonian toothfish fishery is not considered large by global standards, the fact that it is the most lucrative fishery in both Antarctic and sub-Antarctic waters heightens its vulnerability to overfishing. See, Mathew Gianni and Walt Simpson, "The Changing Nature of High Seas Fishing – how flags of convenience provide cover for illegal, unreported and unregulated fishing," *Independent report* by the Australian Government Department of Agriculture, Fisheries and

IUU fishing in the Southern Ocean

Whilst illegal, unreported and unregulated fishing has occurred for centuries, the term IUU fishing only came into use following its unprecedented growth at a global level during the mid 1990s.[29] The substantial rise in IUU fishing practices throughout this period was particularly evident in the Southern Ocean. Patagonian toothfish resources have experienced severe over-exploitation in this region, with the commercial sustainability of the species becoming highly jeopardised due to the ongoing, intensive nature of IUU fishing activities.[30] Approximately ninety-six percent of Patagonian toothfish stocks are found in the waters

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Forestry, International Transport Workers' Foundation, and WWF International (October 2005): 1-83; Gail Lugten, "Net Gain or Net Loss? Australia and Southern Ocean Fishing," in *Looking South: Australia's Antarctic Agenda*, ed. Lorne K. Kriwoken, Julia Jabour, and Alan D. Hemmings, 100-117 (Sydeny: The Federation Press, 2007).

[29] The term IUU Fishing was first used by CCAMLR at the 1997 Commission Meeting. This definition is adapted from the UN Food and Agriculture Organization's International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, adopted by the 24th session of the Committee of Fisheries (Rome, 26 February–2 March 2001). *Illegal Fishing* refers to activities conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations. Illegal fishing also refers to activities conducted by vessels flying the flags of states that are Parties to a regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization, or relevant provisions of the applicable international law. Furthermore, illegal fishing includes the activities of vessels that are in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization. *Unreported Fishing* refers to fishing activities that have not been reported (or have been misreported) to the relevant national authority; as well as fishing activities undertaken in the area of competence of a relevant regional fisheries management organization that have not been reported (or have been misreported), and are in contravention of the reporting procedures of that organization. *Unregulated Fishing* relates to fishing activities conducted in the area of application of a regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State or fishing entity not party to that organization. Unregulated fishing also refers to fishing taking place in areas for which there are no applicable conservation or management measures, and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

[30] Lugten, "Net Gain or Net Loss?" 100.

regulated by CCAMLR – with stocks particularly abundant in the waters adjacent to sub-Antarctic islands belonging to Australia, France, South Africa and the United Kingdom.[31]

IUU fishing within the CCAMLR Convention Area first emerged as a significant problem during the early to mid 1990s, taking place in fishing grounds southwest of the Atlantic sector in the waters around South Georgia Island.[32] As stocks became depleted in this area, IUU vessels moved into the western Indian Ocean sector, concentrating their efforts on targeting Patagonian toothfish stocks in the waters surrounding Prince Edward and Marion Islands (belonging to South Africa). By the late 1990s and early 2000s, IUU fishing for Patagonian toothfish had developed into a serious, and widespread problem throughout a number of other areas and sub-areas within the Convention Area.

Serious concern over the high level of IUU fishing saw the issue raised at the 1993 Commission Meeting.[33] CCAMLR estimates indicate that by the late 1990s, around one third of the total Patagonian toothfish catch was attributed to IUU fishing.[34] This resulted in major implications for the sustainability of

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[31] L.D. Fallon and Lorne Kriwoken, "International Influence of an Australian Non-Governmental Organisation in the Protection of Patagonian Toothfish," *Ocean Development and International Law*, 35 (2004): 221-266.

[32] William Edeson, "Closing the Gap: The role of "Soft" International Instruments to Control Fishing," Australian Year Book of International Law, 6 (1999), http:///www.austlii.edu.au/au/journals/AUYrBkIntLaw/1999/6.html; Mary Ann Palma, Martin Tsamenyi, and William R, Edeson (eds.), "Promoting Sustainable Fisheries: The International Legal and Policy Framework to Combat Illegal, Unreported and Unregulated Fishing," *Vol. 6 of Legal Aspects of Sustainable Development* (Boston: Martinus Nijhoff Publishers, 2010).

[33] The Commission was established under Article IX of the Convention, giving effect to the objectives and principles of the Convention set out in Article II. For further information see, www.ccamlr.org.

[34] Mary Lack and Glenn Sant, "Patagonian Toothfish – Are Conservation and Trade Measures Working?" *Traffic International*, 19 (2001): 1-19.

fisheries (from both a conservation, as well as an economic perspective), and overall undermines CCAMLR conservation measures.[35]

(i) CCAMLR's role in addressing IUU fishing

Throughout the 1990s, the Commission developed and implemented 'an integrated policy of conservation measures' in an attempt to address the illegal harvesting of Patagonian toothfish and other Southern Ocean fisheries resources in the Convention Area and adjacent waters, and in order to generate increasing accountability and liability amongst Patagonian toothfish fisheries.[36] Major measures implemented have included, a System of Inspection,[37] Vessel Monitoring Systems (VMS),[38] the Catch Document Scheme (CDS),[39] and black lists of IUU vessels belonging to both Contracting,

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[35] CCAMLR Performance Review Panel, "Report," (1 September 2008): 18.
[36] CCAMLR-XXV, "Report of the Twenty-Fifth Meeting of the Commission" (Hobart, 2006).
[37] Developed in 1989, the System of Inspection permits inspectors of one member vessel to board and inspect the vessels of other members within the Convention Area. See, David Agnew, "The Illegal and Unregulated Fishery for Toothfish in the Southern Ocean, and the CCAMLR Catch Documentation Scheme," *Journal of Marine Policy*, 24 (2000): 361-374.
[38] The System of Inspection intends to monitor the location of fishing vessels, verify the geographic origin of their catches, and deter IUU operators from fishing in prohibited or unauthorised areas. It was mandated by the Commission in 1998, and entered into force in 2001. The use of VMS applies to all Patagonian toothfish vessels flagged to CCAMLR Contracting Parties (CPs), or States that voluntarily abide by CCAMLR regulations. See, Lack and Sant, "Patagonian Toothfish," 8; National Environmental Trust (NET), "Black Market for White Gold – The Illegal Trade in Chilean Sea Bass," *National Environmental Trust (NET) Report* (2004), www.environet.org.
[39] Implemented in 2000, the CDS provides the necessary information for the identification of a toothfish catch, allows for the tracking of international trade in the species, and discourages CCAMLR Members from importing illegally caught fish. It is a requirement for all CP vessels to complete a catch document (CD) for every landing or transshipment of Patagonian toothfish. See, B.C. Clark and Alan D. Hemmings, "Problems and Prospects for the Convention of Antarctic Marine Living Resources Twenty Years On," *Journal of International Wildlife Law and Policy*, 4 (2001): 47-62; Cathy Roheim and Jon G. Sutinen, "Trade and Marketplace Measures to Promote Sustainable Fishing Practices," *Natural Resources, International Trade and Sustainable Development* (ICTSD Projects on Fisheries, Trade and Sustainable Development, May 2006): 2.

as well as non-Contracting Parties.[40] Other measures established by the Commission have included strengthening Port State control mechanisms, implementation of stricter licensing procedures, and enhancing control over nationals to limit the trade of illegal catches on the international market.

Although large scale IUU fishing for Patagonian toothfish in the Convention Area has reduced significantly in recent years (and has even been eradicated from the EEZs of some CCAMLR Member states), IUU vessels continue to be observed and reported in international waters that fall within the Convention Area, and remain an ongoing problem that challenges the integrity of CCAMLR's conservation and management measures.[41] In recent years, the CCAMLR Commission has expressed growing concern that estimates of IUU catches have increased since 2009[42] - rising from 938 tons in 2008/09, to 1615 tons during the 2009/10 season.[43] IUU fishing has more recently been observed in areas where such activities have not been detected for several years – including in the waters surrounding France's Crozet Islands.[44]

It is important to note that with the exclusion of a System of Inspection, CCAMLR has neither the mandate, nor the capacity to undertake surveillance or enforcement operations. The Commission establishes

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[40] Black listing intends to discourage CPs from flagging vessels that have been previously engaged in IUU fishing, and dissuades CPs from authorising such vessels to operate in waters within their jurisdiction. See, Lack and Sant, "Patagonian Toothfish," 9.
[41] Fallon and Kriwoken, "International Influence," 223; Coalition of Legal Toothfish Operators (COLTO), "OECD Workshop on IUU Fishing Activities" (2004): 4, http://www.colto.org/OECD_workshop.htm; Clark and Hemmings, "Problems and Prospects for the Convention," 47.
[42] CCAMLR-XXVIII, "Report of the Twenty-Eighth Meeting of the Commission," (Hobart, 2009).
[43] CCAMLR-XXIX, "Report of the Twenty-Ninth Meeting of the Commission," (Hobart, 2010): 28.
[44] CCAMLR-XXVIII, "Report of the Twenty-Eighth Meeting of the Commission," 38.

conservation measures that are agreed upon by Member Parties via consensus. It is the responsibility of the Parties to ensure that these measures are implemented at the national level for those Members claiming territories, to undertake surveillance of their territories, and to pursue enforcement procedures in accordance with both national laws, as well as in conformity with international laws. Some States, for example, France, Australia, and South Africa, possessing sovereign territories that fall within the Convention Area, are 'cooperating in a reciprocal way through bilateral and trilateral agreements on surveillance and at-sea inspection activities,' both within areas of national jurisdiction, as well as on the high seas.[45]

(ii) IUU fishing in the French and Australian EEZs

As IUU fishing levels rose significantly throughout the late 1990s and early 2000s, fish stocks in some of the exploited areas became increasingly depleted. This instigated the development of an insidious pattern of IUU activities – whereby a high concentration of well organised IUU vessels targeted and exploited areas that lacked sufficient surveillance, in order to limit detection by national authorities.

By the mid 1990s, IUU fishing was occurring around South Georgia Island,[46] Prince Edward and Marion Islands. Noting the devastation caused by IUU fishing in the South African EEZ, and aware that a high level of IUU fishing was progressing in an eastward direction toward their territories, France and Australia speculated that IUU fishing would likely pose a serious issue within their EEZs in the very near future.[47] IUU fishing was first detected

[45] CCAMLR Performance Review Panel, "Report," 77.
[46] Claimed by the UK.
[47] Ian Hay, personal communication (10 November 2011, Hobart).

around the Kerguelen Islands and Heard Island in 1997. As fish stocks became further depleted, IUU operators encroached further into the sovereign waters of France and Australia, concentrating their efforts in fishing areas west of the Kerguelen Plateau in the Indian Ocean sector.

Despite their individual efforts, both France and Australia's attempts to deter IUU fishing in their waters were continually thwarted by the persistent, and evasive measures employed by IUU operators – including the reflagging of vessels, at sea transfers of catch, night operations, and the use of advanced radars capable of detecting the proximity of licensed and patrol vessels. Considering the significant threat posed by IUU activities (especially since at the time, France and Australia both lacked sufficient independent enforcement provisions to deal with the problem), both nations identified the mutual benefits of developing cooperative surveillance and enforcement arrangements to jointly combat the problem in their neighbouring zones.

Confrontations between IUU vessels and licensed fishing vessels, and the need to protect and assert sovereign rights over their EEZs, prompted intervention action by French and Australian naval patrol vessels. This resulted in a series of IUU vessel apprehensions off the Kerguelen and Heard Islands in 1997. By the turn of the century, a limited 'Kerguelen Patrol' comprised of French and Australian national patrol vessels operated 'overtime' in their respective zones in response to the increasing rise in IUU vessel sightings.[48]

France had proven success in apprehending IUU vessels throughout the 1990s – between 1997 and 2000, French authorities arrested twenty vessels

[48] Michael Peyron, "Focus on Kerguelen, hub of the toothfish saga" (2006): 2, http://www.aui.ma/old/VPAA/shss/mpeyron-toothfishsaga.pdf.

found to be fishing illegally within their territorial waters.[49] For example, the French patrol vessel, *Albratros*,[50] caught the *Southern Raider* fishing illegally around St Paul Island in October 1996. Another French vessel, *Ventôse*, operating in the vicinity of the Crozet Islands, apprehended *Belgié III*, and *Mar Largo* in March and April 1997 respectively. The *Albratros* was successful in arresting *Praia Do Restelo* in January 1998, found to be carrying a record illegal catch of 200 tons of Patagonian toothfish. A few years later the *Floréal* patrol succeeded in apprehending the *Monte Confurco*, in October 2000 – seizing a 158 ton illegal catch, resulting in the skipper incurring a fine of one million francs.[51]

Since 2001, French authorities have apprehended and prosecuted two IUU vessels[52] – *Lince*, in the 2002/03 season, and *Apache*, in the 2004/05 season. Sailing under a Seychelles flag of convenience, *Lince* had been sighted operating without authorisation by the French frigate, *Nivôse*, during patrols northeast of the Kerguelen EEZ. *Lince*, through attempting to evade arrest, forced the French authorities on board the *Niovôse* to undertake an armed intervention via helicopter in order to secure the unauthorised vessel, crew, and the 160 tons of illegal Patagonian toothfish catch. Although registered in Chile, subsequent investigations following the seizure of *Lince* at *Port-aux-Galets*, traced the vessel's ownership back to Spain – a CCAMLR Member.[53] Following prosecution, *Lince* was refitted as a French patrol vessel in 2003.

[49] For further information on France's success in apprehending IUU vessels, see, www.taaf.fr/rubriques/peche/pecheIllicite/pecheIllicite.htm.
[50] The *Albratros* – a former IUU fishing vessel, was specially refitted and armed by French authorities in 1984 to undertake surveillance missions.
[51] Peyron, "Focus on Kerguelen," 3.
[52] See, http://www.taaf.fr/rubriques/peche/pecheIllicite/pecheIllicite.htm.
[53] Peyron, "Focus on Kerguelen," 16.

Renamed *l'Osiris*, it is now responsible for undertaking surveillance off the Kerguelen EEZ for 150 days a year.[54]

In June 2004, French authorities on board the *Albatross* were notified via radar satellite surveillance system (Radarstat) that a suspect vessel (*Apache* – a long liner flagged to Belize) was operating in the waters surrounding Heard Island.[55] Due to poor weather conditions, French authorities were prevented from boarding, but continued to pursue the vessel for three days north east into the Kerguelen zone. While briefly losing the trail, Radarstat enabled redetection of the *Apache* some seven days later in the northwest section of the Kerguelen zone. After a warning shot being fired by French authorities, the *Apache* was finally arrested as part of a cooperative French-South African operation, approximately 5000km south east of Cape Town, for illegally harvesting Patagonian toothfish around Kerguelen Island. Following apprehension, the *Apache* was towed to the French Island of Reunion to await prosecution.[56]

Vessels caught fishing illegally in the French zones are apprehended along with any seized catch, and relocated to Reunion Island to undergo investigation and prosecution. To eliminate any possibility of seized pirate vessels being reemployed by IUU operators in the future, French authorities often destroy seized and convicted vessels. However, like the *l'Osiris*, in the

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[54] In August 2003, Australia, South Africa, and the UK cooperatively brought an end to a twenty-one day hot pursuit of the IUU long liner, *Visara I (*Flagged to Uruguay), when the vessel was eventually apprehended 2000 nautical miles south-west of Cape Town for illegally fishing within Australia's EEZ. See, Erik J. Molenaar, "Multilateral Hot Pursuit and Illegal Fishing in the Southern Ocean: The Pursuits of the *Viarsa I* and the *South Tomi*," *International Journal of Marine and Coastal Law,* 19 (2004): 19-42; Duhamel and Williams, "History of whaling," 25; Bruce G. Knecht, *Hooked. Pirates, Poaching and the Perfect Fish* (Rodale Inc., Holtzbrick, 2006), 278.

[55] A detailed description of France's use of Radarstat is provided on page 232.

[56] Although this vessel was flagged to Honduras, its ownership was traced to a company in Panama.

case of the *Apache*, the vessel was refitted, renamed *Le Malin*, and dispatched into patrol service by the French. This case in particular, demonstrates the value of Radarstat in providing adequate detection capabilities in the remote areas of the Southern Ocean, where maintaining visual contact with a suspect vessel can be inhibited by severe and unpredictable weather conditions.

Nevertheless, not all attempts to make arrests have been successful. This was not only the case for France, but also for Australia (that was operating unarmed civilian patrol vessels to make arrests within its EEZs in the late 1990s). It became evident, that improvements to the effectiveness and efficiency of surveillance and enforcement capabilities in the region were necessary.

Towards a cooperative French-Australian surveillance agreement

By the early 2000s, IUU fishing within the EEZs of Kerguelen Islands and Heard Island escalated to an alarming level.[57] Informal cooperation between Australia and France was stepped up, when in July 2002, the Australian Fisheries vessel, *Southern Champion,* intercepted and pursued the pirate vessel, *Eternal* (a previously convicted, and renamed IUU vessel) into the Kerguelen EEZ. Upon receiving this information from Australia, the *Albatros* took over the chase of the vessel north east of Kerguelen Island. Despite initially refusing requests to stop – and in fact, ramming the *Albatros*, *Eternal* eventually ceded to arrest. This case not only outlined the burgeoning of strategically coordinated French-Australian surveillance cooperation, it also

[57] Although research surveys had been undertaken with imminent plans to develop a commercial fishery, HIMI was not a proven fishery at this stage. IUU activities were already impending prior to the establishment of the licensed fishery, and accelerated once the licensed fishery commenced operation. See also, Fallon and Kriwoken, "International Influence," 224.

provided a clear indication to IUU operators that national 'law enforcement vessels remained a force to be reckoned with in the Southern Ocean.'[58]

The close ties France and Australia developed in relation to cooperative surveillance and enforcement in the region are based upon the mutual recognition that both nations essentially faced the same problem.[59] Recognising the sheer magnitude of the IUU fishing issue, and the significant threat posed by ongoing IUU activities to key national interests (most notably, protecting sovereignty, loss of economic revenue, maintaining international political credibility, and ensuring environmental protection), France and Australia decided to establish a bilateral legal framework agreement permitting the comprehensive joint surveillance of their EEZs, in order to eliminate and deter IUU activities in their zones.

It was perceived to be critical to both French and Australian interests, that credibility of sovereignty be maintained within the international political system. Consequently, threats of deterrence aimed at IUU operators could be neither empty, nor void of sufficient substance. Both states recognised that incapacity, (or even perceived incapacity) to protect their own assets, would undermine their domestic, as well as international credibility. In this regard, France and Australia were highly aware of the need to not only be able to project sovereign power and influence over their territories, but also demonstrate a capacity to act on the basis of a potential threat, or actual violation of sovereignty. In order to achieve this, both states agreed that a cooperative approach would enhance the chances of a successful outcome.

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[58] Peyron, "Focus on Kerguelen," 15.

[59] Intensive IUU fishing was prompted by a significant rise in the market price of the species throughout this period.

In relation to the environmental threats associated with IUU fishing, and from a marine living resource conservation point of view, the significant negative impacts of IUU fishing on not only Patagonian toothfish stocks, but also the entire Southern Ocean ecosystem (resulting from the depletion of a major predatory species), were extremely high. IUU fishing practices are not subject to any conservation mitigation measures, standards to limit incidences of incidental seabird by-catch, the introduction of non-native species, or the detrimental impacts to fishery resources – including threats to the sustainability of stocks, as well as threats to commercial viability. The importance of protecting the environmental values of the *Terres australes* (a national nature reserve since 2006),[60] and HIMI (a world heritage listed area), was considered a significant priority for both the French and Australian Governments.

IUU fishing also imposed a significant economic cost to both States. With the EEZs of France and Australia located at 3500, and 5000 km respectively from Reunion Island, and the Australian mainland – the capacity to streamline surveillance and enforcement operations in order to minimise the financial costs to both nations, was perceived as an essential and immediate step. IUU fishing also severely jeopardised the viability of fisheries resource sustainability through significant revenue loss. This occurred not only directly through total catch reductions (and necessary closure of fisheries to allow stocks to replenish sufficiently), but also through the financial costs associated with necessary deterrence efforts – notably, the deployment of naval patrol vessels.

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[60] On 2 November 2005, the French Minister for Ecology and Sustainable Development declared the creation of a 700 000 hectare terrestrial and maritime nature reserve in the *TAAF*. See, décret n° 2006-1211 du 3 octobre 2006, "portant création de la réserve naturelle des Terres australes françaises," *J.O.R.F*. n° 24 du 4 octobre 2006: 14673-14675. See also, Cécile Fargue, "La France crée une réserve naturelle en Antarctique,' *d'Univers Nature* (14 novembre 2005).

(i) A joint approach to IUU fishing

The above mentioned factors prompted France and Australia to identify that due to the level and nature of the IUU problem within the French and Australian zones, a cooperative approach would be an appropriate tactic to adopt in eliminating IUU fishing operations. This was seen to be particularly important given the high risk of IUU vessel displacement – a process that involves the risk of forcing IUU vessels across delimitation zones from the territorial waters of one state, into the adjacent waters of the other. This causes a negative effect on eliminating the occurrence of IUU fishing, as operations either manifest in neighbouring zones, or return, once at sea surveillance has been withdrawn. Consequently, in such situations, the effectiveness of tackling the problem individually is limited, and even potentially counterproductive.

Prior to the development of formal cooperative bilateral relations with Australia, France had already been undertaking independent regular surveillance operations within its zones, and *TAAF* personnel are stationed at *Port-aux-français* on Kerguelen Island. Although France had stronger existing surveillance capabilities than Australia at the time, it recognised that it ultimately lacked sufficient resources to address the IUU fishing problem effectively and comprehensively on its own. This prompted it to realise the significant advantages of undertaking bilateral cooperation with its neighbor in the region.

It is important to note that although, following both individual, as well as ad hoc cooperative surveillance measures, the number of IUU vessels operating in the French and Australian EEZs dropped by more than half, the level of

IUU fishing actually intensified, due to the fact that the fewer remaining vessels in operation demonstrated a more organised, and determined effort.[61] Undeterred by an increased threat of detection by national authorities, these IUU operators were considered to be not only opportunistically exploiting fish stocks, but rather linked to vast international organised crime syndicates.[62] This shift in the very nature of IUU fishing activities over a two to three year period necessitated a reconsideration of the scope and strength of France and Australia's existing individual, as well as cooperative efforts.

The development of a joint compliance response was perceived as an essential step that would involve the capacity and authority of both nations undertaking cooperative surveillance, and implementing joint enforcement powers (including apprehension and seizure of vessels, and enforcement of national fisheries laws) in each other's zones. Consequently, a legally binding treaty that would permit such action was required. France and Australia agreed that this approach was vital to improving both the efficiency and effectiveness of existing enforcement procedures, as well as providing a substantial ongoing deterrent to IUU operators.

Although a formal cooperative arrangement between France and Australia did not exist prior to the establishment of the Maritime Cooperation Agreement (discussed in greater detail in the following section), both countries had signed an Agreement relating to the Exchange and Communication of Classified Information in July 1985,[63] as well as an

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[61] Hay, personal communication.
[62] Ibid.
[63] Austl. T.S. nº 20 (hereafter Agreement relating to the Exchange of Communication of Classified Information). This Agreement provides some parameters that bare legal relevance to the development of the more recent Agreements signed between France and Australia in relation to cooperative surveillance and enforcement of fisheries laws in the Southern Ocean.

Agreement on Scientific and Technological Cooperation in October 1988.[64] At an agency level, the Australian Antarctic Division (AAD), and the *IPEV* had also signed a memorandum of understanding (MOU) in relation to scientific and logistics cooperation in the late 1990s.[65]

The Maritime Cooperation Agreement

Seeking to consolidate their efforts to combat IUU fishing activities in their EEZs, France and Australia formalised bilateral relations by establishing the Agreement on Cooperation in the Maritime Areas Adjacent to the French Southern and Antarctic Territories, Heard Island and the McDonald Islands on 24 November 2003.[66] Since this time, France and Australia have been able to strengthen legally their joint surveillance and enforcement efforts, and continue to maintain a committed, and united front in the fight against IUU fishing in their zones. Entering into force 1 February 2005, the Maritime Cooperation Agreement was established on the premise of two key objectives – first and foremost, to strengthen cooperative surveillance; and second, to enhance cooperation in regard to scientific research on marine living resources within the established Area of Cooperation.

In light of the need to address the urgency of IUU activities, any initial reservations regarding the organisation of a bilateral agreement (particularly in relation to associated economic costs, and ensuring that both nations benefit equally from the arrangement), were sorted out relatively quickly. Although negotiations surrounding the details and drafting of a text that was

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[64] Austl. T.S. n° 10 (hereafter Scientific and Technological Agreement). Although non-specific, this Agreement provides a certain legal and administrative foundation upon which to establish more concrete bilateral arrangements.
[65] Tony Press, personal communication (23 November 2011, Hobart).
[66] Austl. T.S. n° 6 (hereafter Maritime Cooperation Agreement).

mutually acceptable to both nations took some time, both France and Australia were in agreement with the key principles and provisions to be included in an agreement.

Nevertheless, while the negotiations surrounding the implementation of surveillance cooperation procedures (such as joint patrol operations), were relatively straight forward, the legal ramifications associated with potential enforcement provisions within an agreement, proved to be more complex, and time consuming. This was due to issues related with each nation's domestic capability to implement agreed provisions at a national level, as well as the need to conform to relevant international laws. For France, the institutional and administrative steps associated with Treaty ratification procedures are more complex than those required in the Australian legal system. It was also agreed that once developed, a bilateral agreement should be able to be built upon in order to provide for any additional enforcement provisions that may be necessary in the future.

Outlined in Article 1, paragraph 1(a), the Area of Cooperation is defined as the territorial seas and EEZs of Australia's Heard and McDonald Islands,[67] and France's Kerguelen Islands, Crozet Islands, Saint-Paul Island and Amsterdam Island.[68] The Maritime Cooperation Agreement applies to cooperative surveillance activities conducted within this area – including the boundary between the Australian maritime areas of Heard Island and McDonald Islands, and the French maritime area of Kerguelen Islands,

[67] These islands are defined respectively in the Seas and Submerged Lands Act (1973) Austl. T.S. nº 161 (hereafter the Seas and Submerged Lands Act).
[68] These islands are defined respectively by, law nº 71-1060 of 24 December 1971; law nº 76-655 of 16 July 1976; decree nº 78-112 of 11 January 1978; and decree nº 78-144 of 3 February 1978.

which remains the same as that defined in Article 2(1) of the 1982 Maritime Delimitation Agreement between France and Australia.[69]

Given the intensity of IUU fishing activities within their zones, France and Australia recognised the need to boost their joint capabilities in several key areas – cooperative surveillance, law enforcement procedures (covered explicitly under a separate agreement that was to follow), and scientific cooperation. Following a series of bilateral consultations, officials from both nations agreed that an effective approach would require a mutualisation of resources, so as to improve at sea joint enforcement capabilities.

(i) Cooperative surveillance

Under Article 3 of the Maritime Cooperation Agreement, provision is made for the cooperative surveillance of fishing vessels within the Area of Cooperation, collaboration regarding patrol missions, as well as cooperation covering the gathering of intelligence, and the exchange of relevant information. The sharing of surveillance capabilities and material resources increases the capacity of both nations to enforce national fisheries laws, and undertake arrests where vessels are found to be in violation of such laws. Provision is made for mutual assistance between Parties – notably in the area of logistical support, and where the 'hot pursuit' of a vessel is proceeding.

Under the Maritime Cooperation Agreement, 'cooperative surveillance' refers to fisheries surveillance activities that involves the identification of vessels that appear to be in breach of national, or international fisheries laws. Cooperative surveillance consists of a two-pronged approach – first, the

[69] (1982) Austl. T.S. nº 3 (hereafter Agreement on Maritime Delimitation)

surveillance of the zones via joint armed maritime patrol vessels, including the use of satellite surveillance measures; and second, the apprehension of unauthorised vessels suspected of being engaged in illegal activities.

In the French EEZs, the *Marine Nationale* (the Navy), and *l'Agence des Pêches* (the Department of Maritime Affairs), are charged with the responsibility of undertaking surveillance operations. Both France and Australia also commissioned new patrol vessels to undertake surveillance activities – France added the *l'Osiris* to its patrol fleet in 2003, and Australia commissioned the *Oceanic Viking* in 2004. This indicates the high level of commitment of both Parties to addressing the problem of IUU fishing in their zones.

In addition to this, Radarstat assists in detecting the location of IUU vessels within the French EEZ. Since February 2004, French authorities have operated Radarstat from a monitoring station at *Port-aux français.* Enabling round the clock tracking of any vessel entering the Indian Ocean, with a real time link from *Port-aux français* to the main station at Reunion Island, this system allows French authorities to remain alert, and informed of any activities taking place within their EEZ.[70] Following the implementation of Radarstat, there was a ninety percent reduction in IUU activities within the French EEZ in a two-year period.[71]

Under Article 4, legal authorisation for the hot pursuit of an illegal vessel to continue from the territorial sea of one state into the other (on the proviso that the other Party has been notified, and excluding the use of 'physical law

[70] Radarstat is used to detect vessels operating within the Kerguelen EEZ, while satellite surveillance is used for vessel detection in the Crozet EEZ.
[71] Peyron, "Focus on Kerguelen," 17.

enforcement or other coercive action' against the pursued vessel during hot pursuit) is provided for.[72] Although the provisions of UNCLOS stipulate that the hot pursuit of a vessel must be broken off if a vessel enters the territorial waters of a third country in the process (unless the consent of the relevant coastal state is received), the Maritime Cooperation Agreement provides 'an automatic mechanism for such consent to be received to ensure that hot pursuit may be maintained.'[73]

The exchange of relevant information – including the location and movement of vessels, licensing details, cooperative surveillance, scientific cooperation, and prosecutions undertaken in relation to IUU activities within the waters of a Party that fall within the Area of cooperation, is provided for under Article 5.[74] France and Australia also established a shared vessel registrar for listing licensed vessels permitted to fish in their respective waters within the Area of Cooperation.

The Maritime Cooperation Agreement also includes three Annexes that detail the specifics of the cooperative surveillance procedures (Annex I), and scientific research cooperation (Annex II), as well as provides for the development of additional agreements in relation to cooperative surveillance activities, including law enforcement operations that may be accompanied by 'forcible measures' (Annex III, Article 2).

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[72] Maritime Cooperation Agreement, Article 4.
[73] Ibid; Lugten, "Net Gain or Net Loss?" 105; Paul Kimpton, "Current Legal Developments – Australia," *The International Journal of Marine and coastal Law*, 19 (2004): 541-42.
[74] Maritime Cooperation Agreement, Article 5.

(ii) Scientific cooperation

The second objective of the Maritime Cooperation Agreement provides for cooperative scientific research on marine living resources.[75] Considering that France and Australia intended to engage in logistics cooperation under the measures for cooperative surveillance, it made sense that logistics capabilities could also be employed for the conduction of mutually beneficial joint scientific research programs in the region. Both Parties also recognised the clear linkage between IUU fishing activities, and the significant decline in fisheries resources. In order to organise scientific cooperation as set out under the Maritime Cooperation Agreement, scientists, as well as government officials, have undertaken several bilateral working sessions since the Agreement entered into force in 2005.[76]

While scientific cooperation comprised only a secondary component of the Maritime Cooperation Agreement (it was developed foremost to address surveillance capacities), since its entry into force, French-Australian cooperation in various fields of scientific research has significantly increased, and has led to the development of wide and diverse bilateral research programs. Cooperation in this regard has had significant individual and collective benefits for both Parties – it has enhanced, and facilitated the sharing of expertise and the exchange of information by developing new, and widening existing, networks of cooperation between national research institutes, agencies and government departments (through the exchange of personnel, information, and data), the establishment of joint research

[75] Maritime Cooperation Agreement, Article 2(b), and fully defined under Article 3, paragraph 5.
[76] France and Australia reported on the positive outcomes of their bilateral cooperation in the Southern Ocean at the Thirtieth Meeting of the CCAMLR Commission in 2011. See CCAMLR-XXX, "Report of the Thirtieth Meeting of the Commission" (Hobart, 2011): 173.

programs, and also allowed both Parties to streamline the use of their respective resources, by cooperating in logistics and technology.

Most importantly, cooperation continues to generate high levels of scientific research, provide data that contributes to wider fields of work in the region, and establish a solid scientific basis upon which decision makers can discuss courses of action, and polices pertaining to important issues affecting the future of the Antarctic and Southern Ocean environment. Much of this cooperation has ensued from the development of strong cooperative relations cultivated between individual scientists, or research teams from both Parties – an informal, bottom-up trend that even predates the signing of the Maritime Cooperation Agreement. In recognition of this, the Agreement states that the Parties 'shall facilitate, as far as possible, direct scientist-to-scientist communication' in order to enable the effective operation of research programs.[77]

Under the Agreement, France and Australia continue to undertake cooperative fisheries and ecosystem research, and conduct assessment work on the Kerguelen Plateau. In the first instance, this includes improving knowledge of the meta population structure of Patagonian toothfish stocks across the Indian Ocean sector; and second, monitoring the long term effects of climate change, and the associated impacts on fisheries and ecosystems. The complementarity between various scientific projects and objectives is significant. For example, the assessment of fish stock populations across the Plateau, provides valuable data that contributes to monitoring impacts of fishing activities (of both licensed commercial fisheries, as well as the impact of IUU operations), and understanding the effect of climate change on the

[77] Maritime Cooperation Agreement, Annex II, Article 2.

entire ecosystem. In turn, this contributes to research currently undertaken on bio-regionalisation – an important element in the designation of marine protected areas.[78]

– Fisheries research

Given that France and Australia are geographically neighbours across parts of the Kerguelen Plateau, joint collaboration in regard to fisheries and ecosystem management is contributing to highly positive outcomes for both nations. Although France and Australia conducted several individual scientific programs in the waters surrounding their respective islands, a combined and thorough consideration of these programs and their results had up until recently been lacking. In order to remedy this, French and Australian research teams continue to pursue close collaboration on a number of joint projects aimed at enriching existing biological, and ecological data and information concerning the Kerguelen Plateau.

A significant amount of this collaborative research (involving the collection of fisheries data through observer and research programs) has focused on studies and surveys aimed at improving knowledge on population dynamics and trends in Patagonian toothfish stocks.[79] Data has indicated the existence of potential meta-populations of Patagonian toothfish across the Plateau. Identification of linkages between these stocks, and the recognised

[78] SC-CAMLR-XXX, "Report on the Workshop on Marine Protected Areas (Brest, France, 29 August to 2 September 2011)" in "Thirtieth Meeting of the Scientific Committee," 18, 329.
[79] Throughout the 1990s, fish tagging surveys were established under the commercial fishery. The POKER I (2006), and POKER II (2010) survey cruises on fish biomass assessments undertaken in the northern sector of the Kerguelen Plateau, yielded a considerable amount of data that has been integrated into joint stock modeling studies. These programs have made a valuable contribution to fisheries management, as well as improving knowledge of ecosystems in the region.

imperative to study the behavior and interaction of the meta-populations, provided a strong motivation for the strengthening of bilateral scientific cooperation between France and Australia. Particular emphasis was placed on assessing the impacts of fishing on the status of populations. This was especially important in light of the intensive IUU fishing effort that was occurring at the same time in the region. This led to the commencement of cooperative work between French and Australian scientists regarding the development of a joint population status model for Patagonian toothfish in 2010.

An increase in fish tagging programs since 2006 has provided a larger data bank upon which to assess population dynamics. In order to incorporate this data into meaningful research programs, French and Australian scientists have strengthened collaboration via both formal, and informal bilateral meetings on a semi regular basis.[80] Their cooperation culminated in the presentation of a joint paper on the preliminary assessment of Patagonian toothfish stocks at the Meeting of the Working group on Fish Stock Assessments at CCAMLR in 2011. Although this paper focused on studying the impact of IUU fishing on stocks across the Plateau, it is also important in terms of the research France and Australia are undertaking both individually as well as collectively on monitoring long term climate change impacts, eco-regionalisation, and the development of marine spacial planning.[81]

France recognises the importance of pursuing ongoing cooperation with Australia in this area, given its capacity to undertake comprehensive fish stock assessments in the east Antarctic sector has been generally more

[80] Data collected from within the French zones indicates consistency with results collected by Australian researchers during annual surveys that have been undertaken around Heard Island, and over the Kerguelen Plateau since 1997.
[81] SC-CAMLR-XXX, "Report of the Thirtieth Meeting of the Scientific Committee" 254, 329.

limited.[82] Given the high level of IUU fishing that has occurred in the region over the last fifteen years, to improve knowledge, and mitigate against uncertainty regarding the dynamics of Patagonian toothfish populations in these areas (a priority not only for fisheries management purposes, but also for the general understanding of marine biodiversity and ecosystems), and to enhance climate change research, both Parties intend to continue cooperation by enhancing the collection of biological data.[83] France also recognises that the databases resulting from the joint assessment studies with Australia, are especially valuable to the work currently undertaken on bio-regionalisation, and classification of marine protected areas (MPAs).[84]

In pursuing scientific cooperation, both France and Australia emphasise a systems based approach, in which the conduction of joint studies and surveys, and gathering of data, provides both nations with a cost effective method to achieve their research agendas. France and Australia decided to convene an international symposium dedicated to research on the Kerguelen Plateau. France hosted the First International Symposium on the Kerguelen Plateau Marine Ecosystem and Fisheries in April 2010.[85] A key objective of the symposium was to organise the development of collaborative projects that support 'ecosystem based fisheries management and conservation in the region.'[86]

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[82] Although France has significant scientific expertise in this area, it lacks sufficient financial resources to dedicate to the analysis of data collected.
[83] Australia has conducted annual surveys within its EEZs since 1997.
[84] SC-CAMLR-XXX, "Report of the Thirtieth Meeting of the Scientific Committee" 43.
[85] Although informal French-Australian cooperation has taken place on a broad range of issues relating to the Plateau since 2007, the Symposium constituted the first formal forum for international scientific cooperation dedicated solely to research on the Plateau. The convening of the Meeting had been preceded by the establishment of a bilateral working group on the assessment of marine fishing resources that took place in Paris in 2009.
[86] Comprising significant marine and benthic biodiversity, the Kerguelen Plateau provides valuable opportunities to study and monitor the impact of climate change, and to undertake assessments on biodiversity. Nadia Améziane et al., "Biodiversity of benthos off Kerguelen

An important outcome of the Symposium has been the enhancement of international cooperation – enabling a significant exchange of information covering a wide variety of scientific disciplines relevant to the Kerguelen Plateau, and contributing to the development of a large collection of scientific data. Considering that the Plateau is especially 'vulnerable to human activities and global climate change,' this collection of data provides a vital component of eco-regionalisation of the Southern Ocean – a process involving an inventory of flora and fauna, and marine ecosystem modeling that assists in the identification and designation of MPAs.

– Establishing Marine Protected Areas (MPAs)

Over the last decade, the international marine community has increasingly acknowledged the need to develop networks of MPAs across various global marine zones. In the Antarctic region, MPAs intend to allow for mitigation against environmental uncertainties in a particularly fragile and biologically diverse marine environment. Further, representative systems of MPAs provide a 'benchmark for marine ecosystem status and change,' and reference areas for monitoring the effects of global climate change on species and ecosystems.[87] MPAs also provide for the study of the effects of fishing and other activities on the marine environment.

Islands: overview and perspectives," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries*, ed. Guillaume Duhamel and Dirk Welsford (2011): 157-167.

[87] Ibid.

MPAs formally appeared on the agenda of the CCAMLR Commission in 2005.[88] The first high seas MPA was established in 2009, when the CCAMLR Commission approved the designation of the South Orkney Islands in the Antarctic Peninsula region of the Southern Ocean.[89] This action effectively closed off the area to fishing activities, enabling scientists to study climate change effects independent from the impacts of human activities.

Within CCAMLR, joint initiatives aimed at eco-regionalisation of the East Antarctic region, are providing another basis for French and Australian cooperation. In attempting to achieve key marine and ecosystem conservation objectives, both France and Australia agree that the establishment of representative systems of MPAs in the region provides for the achievement of a number of key objectives – not least of which includes the fulfillment of international targets set by the 1992 World Summit on Sustainable Development (WSSD), and the Convention on Biological Diversity (CBD).[90] Additionally, the CCAMLR Commission has committed to a new work plan to develop a network of high seas MPAs across the whole of the Southern Ocean by 2012.

Both nations advocate the need to future proof the Southern Ocean marine environment, to ensure that species, as well as the systems in which they exist, are able to adapt to environmental change. In recognition of this, Australia designated a marine reserve in the vicinity of HIMI in 2002 under the broader framework of a National Representative System of Marine

[88] Following the convening of the first CCAMLR workshop on the subject, held in 2005 in Silver Springs, the United States, a bio-regionalisation workshop was held in 2007 in order to further work on the development of the identification of MPA sites.
[89] The South Orkney Islands MPA covers approximately 94 000 km^2 of the Southern Ocean.
[90] In 2002, the WSSD set the target of the establishment of a representative network of MPAs by 2012. The CBD also set a 2012 target for the establishment of RSMPAs.

Protected Areas (NRSMPA), established in 1991.[91] Similarly, France established the national marine and terrestrial nature reserve of the *Terres australes françaises* in October 2006[92] – covering a combined land and maritime area of 23 000 km^2, it constitutes the largest nature reserve in France. Since early 2011, the reserve has been looked after under a comprehensive management plan that was drafted and implemented by the *TAAF*.

Individually, France occupied a leading role in relation to the establishment of Representative Systems of MPAs (RSMPA) in the Antarctic and Southern Ocean region, hosting and co-convening an international Workshop on Marine Protected Areas in Brest, in September 2011. France also hosted a technical workshop on the East Antarctic planning domain in 2012. These initiatives demonstrate a high level of commitment on behalf of France in relation to current and pressing issues relevant to international Antarctic affairs, and serve to highlight the emphasis of environmental protection and conservation on the French national Antarctic agenda.

In recent years, France and Australia have been working toward achieving RSMPAs in the East Antarctic sector. This involves researchers from both nations working on establishing an inventory of fauna and flora marine ecosystem modeling in the Dumont d'Urville Sea – a process that has provided a vital preliminary step toward the identification and designation

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[91] L. Meyer, Andrew Constable, and Richard Williams, "Conservation of Marine Habitats in the Region of Heard Island and the McDonald Islands: Final Report to Environment Australia" (Hobart: Australian Antarctic Division, 2000): 82.

[92] The decree defines and outlines the legislative framework and the institutions that are responsible for the management of the reserve. See, Axel Falguier and Cédric Marteau, "The management of the natural marine reserve of the Terres australes françaises (French Southern Lands)," in *The Kerguelen Plateau: Marine Ecosystem and Fisheries*, ed. Guillaume Duhamel and Dirk Welsford, 293-296 (Paris: SFI, 2011).

of MPAs in the region. France and Australia put forward a joint proposal for the establishment of a RSMPA in the East Antarctic planning domain at the MPA Workshop in 2011,[93] and continued to pursue this proposal at the CCAMLR Commission Meeting later that same year. Australia and France have continued working on developing plans for a RSMPA in East Antarctica, with an intention of providing a conservation measure for consideration by the next meeting of the CCAMLR Commission.[94]

– *The Collaborative East Antarctic Marine Census*

The French/Australian East Antarctica RSMPA proposal is founded on a sound scientific basis. Trilateral cooperation between France, Australia and Japan during the Collaborative East Antarctic Marine Census (CEAMARC) in 2007/2008, provided data that contributed not only to the identification of individual candidate MPAs, but also provided the scientific basis that supports the East Antarctic planning process as part of a wider representative system of MPAs in the Antarctic.[95]

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[93] The French-Australian joint proposal aims to conserve representative areas of marine biodiversity in the region, and to provide reference areas in East Antarctica with two main objectives – first, to measure the effects of climate change, and the associated long-term changes to the ecosystem independent from the effects of human activities; and second, to estimate and monitor the effects of fishing activities (particularly in order to enhance information on top predator species). Under the proposal the region would be sub-divided into provinces that would together, effectively cover all of east Antarctica. See, SC-CAMLR-XXX, "Report on the Workshop on Marine Protected Areas (Brest, France, 29 August to 2 September 2011)" in "Thirtieth Meeting of the Scientific Committee" (Hobart, 2011): 43, 101.

[94] France also continues to cooperate with South Africa in relation to MPA planning in the del Cano-Crozet domain. Both nations are working towards developing a jointly managed MPA covering the Del Cano Plateau, located between France's Crozet Islands and South Africa's Prince Edward Islands. See, SC-CAMLR-XXX, "Report on the Workshop on Marine Protected Areas (Brest, France, 29 August to 2 September 2011)" in "Thirtieth Meeting of the Scientific Committee," 267, 280.

[95] SC-CAMLR-XXX, "Report on the Workshop on Marine Protected Areas (Brest, France, 29 August to 2 September 2011)" in "Thirtieth Meeting of the Scientific Committee," 43, 101.

CEAMARC was a collaborative multinational program established under the Census on Antarctic Marine Life (CAML).[96] It involved French, Australian, and Japanese scientists working on board four vessels – the *Aurora Australis* (Australia), *l'Astrolabe* and *la Curieuse* (France), and the *Umitaka Maru* (Japan), collecting marine samples from the same region during three separate voyages in the austral summer of 2007/2008.[97] Via marine surveys, CEAMARC intended to contribute to knowledge on the evolution of marine life, and provide information on the future environmental impacts of climate change in the region adjacent to Terre Adélie, and George V Land in East Antarctica.[98]

In collecting samples from areas that had been previously unexplored, and lacking in sufficient data,[99] CEAMARC provided a 'robust benchmark' on marine life in the region, and also led to the discovery of a significantly large area of biodiversity.[100] The observations, samples, data and imagery collected during CEAMARC coordinated the recognition within CCAMLR of the

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[96] A five year international program, CAML (2005-2010), was one of seventeen international projects developed as a result of the Census on Marine Life (COML). CAML's main objective involved studying the distribution and level of marine biodiversity in the Antarctic region – particularly in relation to the impacts of climate change. It involved nineteen collaborative voyages, and the participation of around three hundred international scientists from thirty countries. Research has culminated in the establishment of a significant biodiversity database located in Brussels, Belgium; Stoddart, personal communication.

[97] While the *Aurora Australis* expedition (16 December 2007-30 January 2008), and the voyages of the two French vessels (20 December 2007 – 21 January 2008), worked around the Adelie Land and George V Land coasts, each voyage focused on the collection of different types of samples. The *Aurora Australis* concentrated on demersal fish species, and benthic seabed communities on the continental shelf, while teams on board the French vessels focused on zooplankton, larvae and oceanography sampling. The *Umitaka Maru* voyage (23 January – 17 February 2008), concentrated on collecting plankton, pelagic and meta-pelagic fish samples in the Dumont d'Urville Sea.

[98] Alix Post, Robin Beaman, and Martin Riddle, "Shedding light on the sea floor," *Australian Antarctic Magazine,* 18 (2010): 14-15.

[99] Martin Riddle, personal communication, 24 November 2011, Hobart. See also, Graham Hosie et al., "CEAMARC, the Collaborative East Antarctic Marine Census for the Census of Antarctic Marine Life (IPY #53): An overview," *Polar Science,* 5.2 (2011): 75.

[100] Ibid.

importance of protecting vulnerable marine ecosystem (VME) sites within the East Antarctic sector.[101] It provided scientific evidence that contributed to CCAMLR's declaration of two VME sites in the Southern Ocean in 2008, and the subsequent implementation of appropriate conservation measures aimed at protecting these areas from bottom fishing practices.[102]

Importantly, research cooperation continued even after the completion of the voyages. The total 3630 samples collected during the *Aurora Australis* voyage were sent from Hobart, Australia, to the *MNHN*[103] in Paris for sorting, analysis, and subsequent entry into databases. The *MNHN* also distributed specimens to international taxonomists for further analysis and identification.[104] The Marine Biodiversity Information Network of SCAR (SCAR-Marbin) manages the sharing of this data, which has made a major contribution to the national collections of both France and Australia.

International cooperation (at both bilateral and multilateral levels) was essential to the success of CEAMARC – most notably, since CEAMARC comprised a project of the 2007/08 IPY. It has had significant positive outcomes for both France and Australia, as well as more widely for the international scientific community. Complementary to CEAMARC, France, in collaboration with Australia, Belgium, and Italy, has undertaken surveys along the continental shelf aimed at studying fish and plankton since 2004.

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[101] Although VMEs do not have legal significance, they provide a point of reference to identify the existence of rich benthic fauna close to the coast. Keith Reid, "Conserving Antarctica from the Bottom Up: Implementing UN General Assembly Resolution 61/105 in the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)," *Ocean Yearbook,* 25 (2011): 131-139.

[102] Megan Lloyd, "Vulnerable Marine Ecosystems in Antarctica," *Australian Antarctic Magazine*, 15 (2008): 19.

[103] *Musée nationale d'histoire naturelle* (French Museum of Natural History).

[104] This involved experts from Australia, France, Germany, the US, the UK, Belgium, Chile, and South Africa. See, Nadia Ameziane and Catherine Ozouf-Costaz, "Sorting the catch," *Australian Antarctic Magazine,* 18 (2010): 16.

France's role throughout these projects has been integral – it was the French "Coastal Ichthyology in Terre Adelie," and the "Integrated Coastal Ocean Observation in Terre Adelie" programs that established the 'foundation of CEAMARC itself.'[105] However, it was the collaborative *Australis* voyage that provided the opportunity to undertake studies in deeper waters off the East coast. France, through the *IPEV*, and Australia, through the AAD, both also continue to conduct individual surveys in the Dumont d'Urville Sea on an annual basis. Additionally, in December 2006 and 2007, France conducted two exploratory voyages in the Dumont d'Urville Sea in order to study bacteria diversity and function.

Due to the results of CEAMARC, the East Antarctic marine region is now acknowledged as one of the most data rich regions in the Southern Ocean. The work conducted through CEAMARC has also led to the identification of a significant number of new species, and highlights the importance of pursuing 'integrated international surveys.'[106] The data bank has also contributed to the development of broader reaching projects by providing a sound scientific foundation for the design of approaches aimed at using environmental proxies for identifying areas of biodiversity. For example, the development of eco-regionalisation models, and biogeographic mapping of the Southern Ocean, as a process that complements MPA planning. The ultimate objective of CEAMARC is to assist scientists to track environmental changes and impacts over time. In this regard, it will continue to assist decision makers in addressing pressing conservation and environmental protection issues in the Antarctic and Southern Ocean region.

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[105] Hosie et al., "CEAMARC," 76.
[106] Philippe Koubbi, "Using fish to identify ecological regions," *Australian Antarctic Magazine*, 18 (2010): 17.

The Cooperative Enforcement Agreement

Deciding to strengthen and build upon the 'strong foundation of cooperation' established under the Maritime Cooperation Agreement, and in accordance with Annex III, Article 2,[107] France and Australia concluded an additional bilateral agreement on cooperative enforcement operations on 8 January 2007. Entered into force on 7 January 2011,[108] the objective of the second complementary Agreement is to enhance the cooperative enforcement of fisheries laws within the existing Area of Cooperation.[109]

While significant practical experience was gained from undertaking joint patrol missions pursuant to the Maritime Corporation Agreement over a number of years, France and Australia perceived that an additional agreement that would enable national vessels undertaking cooperative surveillance missions to engage in policing operations in the waters of each Party under certain conditions was an essential step.

Taking into account the practical difficulties both France and Australia faced regarding the effective implementation of enforcement mechanisms, and given that cooperation has been identified as a highly effective means of preventing, deterring, and eliminating IUU fishing, particularly in the remote and hostile region of the Southern Ocean,[110] France and Australia

[107] Maritime Cooperation Agreement, Annex III, Article 2.
[108] (2007) Austl. T.S. n° 1 (hereafter Cooperative Enforcement Agreement).
[109] The Area of Cooperation for the Cooperative Enforcement Agreement is the same as that established under the Maritime Cooperation Agreement signed in 2003.
[110] Based upon reports on behalf of France and Australia presented to the Thirtieth Meeting of the CCAMLR Commission. See, CCAMLR-XXX, "Report of the Thirtieth Meeting of the Commission," 93, 172-173, 183.

decided to conclude another bilateral agreement to prevent ongoing violations of their respective national fisheries laws.

(i) Agreement components

Established within the wider existing framework of the Maritime Cooperation Agreement, the Cooperative Enforcement Agreement provides a new legal mechanism enabling cooperative enforcement actions against IUU vessels within the existing Area of Cooperation.[111] This includes the sharing of material resources, and the development of mechanisms enabling the implementation of enforcement procedures within the zones of each Party. Cooperative enforcement is defined as activities that include the 'boarding, inspection, hot pursuit, apprehension, seizure, and investigation of fishing vessels,' that are understood to be in violation of the national fisheries laws, undertaken by one Party in conjunction with the other Party.[112]

The Cooperative Enforcement Agreement also permits 'ship riding,' whereby authorised French and Australian Controllers[113] have the authority to exercise cooperative enforcement activities on board an authorised vessel of the other Party, on the proviso that the other Party has granted consent. For example, a French Controller is permitted to enforce French fisheries laws within the French EEZ on board an authorised Australian vessel, and vice

[111] Patrick Dennien and Genevieve Paterson, "Australian Practice in International Law 2006," in *Australian Year Book of International Law,* vol. 27, supervised by Helen Horsington and Ben Milton, 375-466 (2006): 384.
[112] Cooperative Enforcement Agreement, Article 1.
[113] A Controller is a fisheries enforcement officer from one Party authorised by its Party to undertake cooperative enforcement activities on board the authorised vessel of the other Party.

versa.[114] Allowing either Australian or French Controllers to board vessels belonging to either nation in the EEZs of both Parties, greatly enhances the possibility of a successful apprehension of an illegal vessel.[115]

While Article 3 permits authorised vessels to employ 'descriptive measures' within the Area of Cooperation in order to hinder the activities of an IUU vessel, the use of force can only be employed following the authorisation of both Parties. Article 4 extends the measures for the hot pursuit of a vessel provided for under the Maritime Corporation Agreement, by authorising a patrol vessel of one Party to take over the hot pursuit of an illegal vessel that has been commenced by the other Party. However, seized vessels must be handed over to the other Party as soon as possible.[116]

Outcomes of bilateral cooperation in relation to IUU fishing

Since joint surveillance patrols commenced in 2004 (officially commencing once the Maritime Cooperation Agreement entered into force in 2005),

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[114] Article 3 of the Cooperative Enforcement Agreement stipulates that Controllers may only exercise activities with consent, and that such activities can only take place when a vessel has a Controller on board. Although this relates to the Area of Cooperation, these actions may be applied outside this Area in some circumstances – including during the hot pursuit of a vessel. Furthermore, enforcement activities must be undertaken in conformity with the applicable law in the maritime zone where the activities are undertaken, and Controllers cannot be required to conduct activities that are contrary to the laws of the Controller's nation.

[115] Joint Standing Committee on Treaties, "Agreement with France on Cooperative Enforcement of Fisheries Laws," Report 111: Review into treaties tabled on 25 November 2009, Parliament of Australia (Canberra: February 2010): 23. See, Eric Pilloton, "La lute contre la pêche illicite," dans *Arctique, Antarctique, Terres australes: Un enjeu pour la planète, une responsabilité pour la France,* Rapport d'Information du Sénat, no. 132 (Paris: Commission des Lois Groupe d'études sur l'Arctique, l'Antarctique et les Terres Australes, 25 September 2007-2008): 22-24.

[116] As stipulated under Article 6 of the Cooperative Enforcement Agreement. Under Article 111(2) of UNCLOS, "countries may conduct a hot pursuit beyond the boundaries of their EEZs of vessels suspected of illegal activity (including IUU fishing). Where necessary this can include the boarding of vessels on the high seas by authorised personnel, followed by investigation and prosecution by the Party in which the violation occurred."

France and Australia have cooperated extensively in relation to both surveillance and enforcement initiatives in the Area of Cooperation, with more than thirty joint surveillance missions undertaken.[117] The use of armed patrol vessels has been highly successful in deterring illegal fishing activity in the French and Australian maritime zones,[118] and has effectively eliminated IUU fishing in the waters surrounding HIMI and the Kerguelen Islands.[119] Since the 2004/05 season, there have been no apprehensions of IUU vessels in either the French or Australian zones. Current *Préfet* of the *TAAF*, Mr Christian Gaudin, notes that given the recalcitrant nature of IUU fishing, the capacity to use force to deter IUU activities (as provided for in the Cooperative Enforcement Agreement), is vital to ensure the success of surveillance operations.[120]

French-Australian cooperation also enhances the capacity of both Parties to achieve the objectives of CCAMLR. At the Commission Meeting in 2011, France and Australia reported on the success of cooperative surveillance measures implemented within their EEZs. Information gathered by French officials on IUU fishing within the EEZs around Kerguelen and Crozet islands, as well as the EEZ around HIMI during the 2010/11 fishing season, indicates that based on effective cooperative surveillance and enforcement measures, there is no longer any indication of IUU fishing in the French and

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[117] Due to the urgency of addressing IUU fishing activities, joint French/Australian surveillance operations had informally commenced in 2004.
[118] Paul Murphy cited in Joint Standing Committee on Treaties, "Transcript of Evidence," Treaties tabled on 4 and 24 February 2010, Official Committee Hansard (Canberra: 15 March 2010): 17.
[119] Department of Foreign Affairs and Trade (DFAT), "Australia-France Joint Statement," Media release (Canberra, 11 September 2011), http://www.foreignminister.gov.au/releases/2011/kr_mr_110911.html.
[120] Christian Gaudin cited in "Océan Austral: L'Accord franco-australien sur la surveillance de la pêche ratifié," *Mer et Marine* (12 January 2011), http://www.meretmarine.com/article.cfm?id=115051.

Australian EEZs.[121] Remaining IUU fishing activities are confined mostly to the edges of the Kerguelen Plateau, and outside of the French and Australian zones.

An emerging problem is that as surveillance and enforcement measures have tightened within the French and Australian zones, IUU vessels have begun exploiting other fishing grounds outside of national EEZs, but still within the CCAMLR Convention Area. In this respect, IUU fishing can be mapped as heading in an eastward arc throughout the Convention Area, since it first emerged as a problem around South Georgia Island in the early 1990s.

In regard to the current level of IUU fishing within the wider Convention Area, CCAMLR's Scientific Committee has noted that in spite of reports of reduced IUU levels, there is a lack of evidence to suggest an overall decline in IUU fishing. The 2011 Commission report stated that 'there is no evidence to suggest that IUU fishing has declined and that it has continued at a relatively low level, although it was possible it was increasing and that the spacial distribution of IUU fishing may be changing.'[122] Data also suggests that IUU fishing is occurring in high seas areas that are not subject to any surveillance measures, and may therefore remain undetected.[123]

Many IUU vessels are linked to large international fleets belonging to transnational syndicates (often those involved with other organised criminal activities, such as trade in drugs and narcotics, and people smuggling). With highly sophisticated, organised, and adaptive modes of operation, these IUU

[121] Based upon information provided by France at the 2011 CCAMLR Commission Meeting. See, CCAMLR-XXX, "Report of the Thirtieth Meeting of the Commission."
[122] CCAMLR, "Report by the CCAMLR Observer to the Thirty-Fifth Antarctic Treaty Consultative Meeting," *IP 27*, ATCM XXXV (Hobart, 2012): 5
[123] CCAMLR-XXX, "Report of the Thirtieth Meeting of the Commission," 20-21.

vessels have extensive range capabilities that significantly enhance their capacity to evade detection by authorities. The use of gillnets further enhances the operational efficiency of IUU fleets – a method that has the potential to increase catches by upward of five times the amount caught with long-lines, and also significantly increases the level of by-catch of non-target species.

France, concerned by the significant detrimental impacts of IUU fishing on fish stocks and non-target species, as well as the overall integrity of ecosystems, remains dedicated to protecting its EEZs from such activities. It also maintains a strong commitment to strengthening CCAMLR's overall capacity to address the issue within the entire Convention Area. France and Australia both submitted information on the current level of IUU fishing to CCAMLR's Standing Committee on Implementation and Compliance (SCIC) Meeting in 2011, highlighting that cooperative surveillance has significantly contributed to improving information obtained on IUU fishing, and has provided a major deterrent effect.

Conclusion

Over the last fifteen years, IUU fishing has posed a significant challenge to the key national interests of both France and Australia. It has had significant implications for the preservation of territorial sovereignty, effective fisheries management, marine living resource and ecosystem conservation, and has inflicted high economic costs for both nations. Key national interests have been achieved successfully through effective cooperation in the region, culminating in the establishment of two bilateral agreements centered upon cooperative surveillance and law enforcement within their EEZs.

The high level of IUU fishing within the EEZs of France and Australia throughout the late 1990s and early 2000s, proved severely damaging to the national interests of both nations. As a result, France and Australia have mutualised and consolidated their critical means – in effect doubling their respective surveillance and enforcement capacities. This has significantly contributed to reducing the high cost of deploying surveillance operations, while at the same time enhancing patrol coverage. Cost sharing has also been extended to scientific research, whereby the pooling of resources and infrastructure, as well as logistics, personnel, and expertise has enhanced the capacity of both Parties to pursue their science agendas at bilateral and multilateral levels.

The Australian National Interest Analysis (NIA) report on the Agreement highlights that cooperative action between states sharing similar concerns regarding IUU fishing, is an effective method in addressing the issue.[124] An enhanced capacity to cooperate on obtaining information on IUU fishing activities through sharing surveillance data, undertaking patrols in each other's zones, mutual assistance during the pursuit and apprehension of vessels, and enforcement of national fisheries laws – including the seizure of vessels, catches, and ultimately prosecution, provides a significant deterrent to IUU operators – one that has ultimately resulted in the elimination of IUU fishing activities in the French and Australian zones.

[124] National Interest Analysis, "Category 1 Treaty, Agreement on Cooperative Enforcement of Fisheries Laws between the Government of Australia and the Government of the French Republic in the Maritime Areas Adjacent to the French Southern and Antarctic Territories, Heard Island and the McDonald Islands, done at Paris 8 January 2007," *National Interest Analysis: Category 1 Treaty [2007] ATNIF 1* (documents to be tabled on 23 February 2010).

Bilateral cooperation has proven to be an extremely successful mechanism in meeting both France's and Australia's key objectives – firstly, deterring and eliminating IUU activities (since 2005, there have been no apprehensions of vessels fishing illegally in either the French or Australian zones); and secondly, encouraging scientific cooperation on marine living resources in the Area of Cooperation – an ongoing element that continues to open up new avenues for bilateral collaboration. In this regard, the Agreements have been useful in paving the way for cooperation in areas that do not directly fall within the formal scope of the Agreements – for example, the extensive collaborative work France and Australia are engaging in concerning the planning of MPAs in east Antarctica.

According to the *TAAF Préfet,* Mr Christian Gaudin, the two Agreements 'crown' bilateral cooperative relations between France and Australia.[125] In a joint statement in late 2011, former French Minister for Foreign and European Affairs, Alain Juppé, along with his Australian counterpart, former Minister for Foreign Affairs, Kevin Rudd, drew attention to the positive results emanating from bilateral cooperative efforts to deter IUU fishing in the sub-Antarctic.[126]

In regard to scientific cooperation established under the Maritime Cooperation Agreement, there have also been positive benefits and outcomes for both France and Australia individually, as well as collectively. Effectively eradicating the 'plague' of IUU fishing across the Kerguelen Plateau,[127] has had significant benefits in terms of both fisheries management, as well as protection and conservation of marine living resources and ecosystems

[125] The complete statement is available at http://www.taaf.fr/Ratification-d-un-accord-franco-australien-sur-la-surveillance-de-la-peche-dans-l-ocean-austral.
[126] DFAT, "Joint Statement."
[127] Duhamel and Williams, "History of Whaling," 15.

within the EEZ of both Parties. Management of national fisheries located within the Area of Cooperation continues to significantly improve, due to enhanced cooperation on those studies aimed at understanding the behavior and distribution of meta-populations of Patagonian toothfish across the Kerguelen Plateau.

Both France and Australia recognise the value of sharing scientific research costs associated with logistics, infrastructure, technology, transportation, and expertise that are necessary in undertaking activities in the region. The joint collection of scientific data and results is assisting not only France and Australia, but also the wider international Antarctic and sub-Antarctic scientific community to continue ongoing programs of research, as well as to plan and develop new projects. These activities ultimately inform both scientific, as well as science policy decision-making, in relation to the future of environmental protection and management of the region.

Cooperation arising from these Agreements has further enhanced the capacity of both France and Australia to meet their international commitments, by achieving (and at times exemplifying) the key objectives of the Antarctic Treaty, the Madrid Protocol, CCAMLR, as well as the targets set by the WSSD and CBD. For example, through agreeing that the establishment of RSMPAs constitutes an essential component of 'safeguarding the future' of the Antarctic environment,[128] France and Australia continue to collaborate on a joint proposal for an MPA in East Antarctica.

[128] Ibid.

The two bilateral agreements (while legally established outside of CCAMLR), have made a substantial contribution to addressing key issue areas that are directly relevant to CCAMLR – particularly in relation to addressing IUU fishing, not only within the French and Australian EEZs, but also more widely within the entire Convention Area. By encouraging scientific cooperation, the capacity of both France and Australia to make significant and valuable contributions – both individually, as well as collectively, on a wide range of scientific research areas that encompass fisheries, as well as marine living resource and ecosystem management issues, is greatly enhanced.

6. France and Environmental Protection in the Antarctic Treaty Area

This chapter focuses on the nature of France's role within two key, and linked, institutional mechanisms of the ATS – the Antarctic Treaty Consultative Meeting (ATCM), and the Committee for Environmental Protection (CEP). Following a brief overview of these institutions, consideration is given to analysing how France's political and strategic cooperative behaviour enables it to achieve its key interests and objectives within these forums. Emphasis is placed upon examining the nature and extent of France's multilateral cooperative engagement. In this regard, questions, and points of interest focused on examining the issues on which France is particularly active (including its political approach to these issues, and the level of consistency it displayed in regard to its cooperative behaviour within the forums of the ATCMs and the CEP Meetings) are covered in the ensuing sections.

The issue of Antarctic tourism and non-governmental activities is examined as a topic area on which France has displayed particular interest, and contributed a high level of engagement. In considering France's role in regard to tourism, it is important to look at other issue areas that are closely linked to the management of tourism activities in the region – for example, environmental protection and human safety. These are also topics on which France demonstrates an active and cooperative role within both the ATCM and the CEP.

The first section of this Chapter is dedicated to considering France's role on Antarctic tourism within the ATCM forum. Particular focus is placed on

considering France's cooperative contribution to human safety, and maritime search and rescue (SAR) within the Antarctic Treaty Area. Following this, examination of France's role in the CEP is undertaken, with consideration focused on two issue areas on which France has demonstrated a significant commitment and contribution – the introduction of non-native species (NNS), and cumulative environmental impacts. It is important to note, that the issues of maritime SAR, the introduction of NNS, and cumulative impacts, are inextricably linked to tourism activities. Consequently, the necessity to consider these issues in conjunction with one another within the forums of the ATCM and the CEP is becoming increasingly apparent and important to ensuring the comprehensive protection of the Antarctic environment.

While the specific focus of this chapter is on France's involvement in the ATCM and the CEP over the last decade, in order to provide sufficient context, some background information is provided in relation to France's role within these institutions since the signing of the Madrid Protocol on Environmental Protection in 1991.[1] In identifying the instances where France demonstrates a high level of engagement, or occupies a leadership role within these institutional forums, particular attention is paid to the level and nature of France's cooperation, including consideration of the Parties with which it pursues cooperation on the issue areas covered in this chapter.

The Antarctic Treaty Consultative Meetings

Article IX of the Antarctic Treaty provides for the establishment of regular meetings between Antarctic Treaty Consultative Parties (ATCPs) in order to

[1] The Madrid Protocol entered into force in 1998.

ensure the key objectives of the Treaty are met. The ATCM is the primary forum in which the ATCPs discuss, debate, and make decisions on issues relating to the management of Antarctic affairs under the Antarctic Treaty. In discussing issues, ATCPs often draw attention to ensuring that decisions taken are in accordance with what is often widely referred to as 'the spirit' of the Antarctic Treaty. While somewhat legally ambiguous, this description of the purpose of the Treaty does however carry significant meaning and importance for ATCPs. It outlines the need to ensure consideration of the views and interests of all ATCPs, aims to encourage cooperation in order to achieve the key objectives of the Antarctic Treaty, and ensures that the wider values of Antarctica are met. At the same time, ATCPs must also remain aware of the potential for the emergence, or in some cases the inflammation of national interests, that can often lead to divergent opinions and positions on behalf representatives of national delegations regarding certain issue areas, and that can serve as a severe impediment to the process of consensus based - decision making within the ATCM forum.

Article 10 of the Madrid Protocol defines the role of the ATCM in relation to the general politics of environmental protection. By virtue of Article 11, ATCMs take place with the assistance of the CEP, which provides scientific based advice and recommendations to the ATCM. In this regard, the two institutions have a reciprocal, and complementary role, as the ATCM also informs the CEP on matters that are of relevance to the work of the CEP. It is important to note that a number of issues (for example, tourism, SAR, and cumulative environmental impacts), while exclusively agenda items on either the ATCM or the CEP, are also often subjected to consideration on the agendas of both institutional forums due to their related nature, and the high level of complexity involved in addressing issues that intersect or overlap. In recognition of this fact, ATCPs attempt to cultivate a comprehensive and

integrated approach to the management of all such issues across both institutions.

(i) France and the ATCM

France has participated on a number of issues within the forum of the ATCM since its establishment in 1961 with the entry into force of the Antarctic Treaty, and throughout the first ATCMs that took place in the early 1960s. However, since the signing of the Madrid Protocol in 1991 (and even more recently over the last decade), France has demonstrated a particular interest in, and strong commitment to progressing work centred on environmental protection in Antarctica. This has led France to develop a strong bank of expertise on a number of key issues on the agenda of the ATCM – particularly (although not limited to), Antarctic tourism and non-governmental activities, and maritime SAR in the Antarctic Treaty Area.

The Committee on Environmental Protection

Established under Article 11 of the Madrid Protocol, the CEP is a scientific committee that provides recommendations to the ATCPs who 'remain sovereign' in all final decision-making.[2] Pursuant to Article 12, the purpose of the CEP is 'to provide advice and formulate recommendations to the Parties in connection with the implementation of this Protocol, including the operation of its Annexes, for consideration at Antarctic Treaty Consultative Meetings.'[3] The CEP meets on an annual basis in conjunction with the ATCM, and includes the participation of invited expert bodies and observers.

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[2] Jean-Claude Hureau, "L'Antarctique, un continent voué à la science?" dans *Le Monde Polaire – mutations et perspectives,* sous la direction de Marie-Françoise André, 162-182 (Paris, Ellipses Editions Marketing): 178.
[3] Madrid Protocol, Article 12.

In between meetings, the CEP manages its work plan via Intersessional Contact Groups (ICGs), and also convenes workshops on specific issue areas.

Given the nexus between the implications arising from tourism activities, and the protection of the Antarctic environment, the CEP undertakes 'dedicated work on the environmental aspects of Antarctic tourism.'[4] Since its first meeting in 1998, the CEP has discussed a number of issues related to tourism, including, but not exclusively on the introduction of NNS, cumulative environmental impacts, the establishment of site guidelines, and strategic environmental assessment procedures.

The issue of tourism and non-governmental activities has been ranked as a level one priority area on the CEP's Five-Year Work Plan since 2008. In addition to this, the issue of site-specific guidelines for tourist-visited sites (which also includes the provision of advice to the ATCM on this matter) is categorised as a level three priority area on the Five-Year Work Plan. The CEP reports to, and informs the ATCM on the environmental aspects of tourism activities where necessary, by providing advice and recommendations to Parties in order to assist the progression of discussions and decision making on tourism management, and ultimately to lead to the development of consensually agreed upon policies. For example, the CEP has progressively developed a series of Site Guidelines for Visitors to Antarctica over recent years that have been approved by the ATCM.[5]

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[4] France, Australia, and New Zealand, "Environmental Aspects and Impacts of Tourism and Non-governmental Activities in Antarctica: Draft Project Scope," *WP 12,* ATCM XXXII (Baltimore, 2009): 3.

[5] Resolution 5 (2005), adopted at ATCM XVIII-CEP VIII; Resolution 2 (2006), adopted at ATCM XXIX-CEP IX; Resolution 1 (2007), adopted at ATCM XXX-CEP X; Resolution 2 (2008), adopted at ATCM XXI-CEP XI; Resolution 4 (2009), adopted at ATCM XXII-CEP XII; Resolution 1 (2010), adopted at ATCM XXIII-CEP XIII; Resolution 3 (2011), adopted at ATCM XXIV-CEP XIV.

(i) France and the Committee for Environmental Protection

France has occupied a primary role in the CEP since the first meeting of the Committee in 1998, and has undertaken a high level of participation and cooperative engagement within this forum. The importance France places on its involvement has seen it cultivate an increasingly visible role within the CEP in recent years – this culminated in 2010, with the election of current *l'Institut Paul Emile Victor* (the *IPEV)* Director Dr. Yves Frenot, as Chairman of the CEP.[6] The election of a French scientist to the position of Chairman highlights France's significant level of commitment as a CEP Member, and the valuable role France plays in CEP proceedings. In particular, Dr. Frenot's role has contributed to enhancing France's level of involvement, expertise, and dedication to key issue areas within the Committee.

While France pursues an active role in the CEP across a broad range of issue areas, undertaking solid and effective work on a wide range of topics (many of which have been identified as high priority issues on the CEP's Five-Year Work Plan), France has demonstrated a particular interest in, and contribution to the topics of the introduction of NNS, as well as the effects of cumulative environmental impacts. France's leadership role also extends more widely to various intersessional forums, such as multilateral workshops, ICGs, as well as informal discussions with other Parties on both a bilateral and multilateral basis. France highlights the significant importance and value of CEP workshops, noting the collective benefits derived from 'the

[6] Prior to this Dr. Frenot held the position of Vice Chair of the CEP from 2005 to 2009. See, ATCM XXXIII-CEP XIII, "The Final Report of the Thirty-third Antarctic Treaty Consultative Meeting – Thirteenth Committee on Environmental Protection Meeting" (Punta del Este, 2010): 47.

in depth work such a forum provides,' as well as the facilitation of ongoing collaborative processes, and the fostering of wider international cooperation.[7]

Somewhat contrasted to the nature of France's role in the ATCM, within the CEP, it appears that France has a deeper, broader, and a more practical understanding of the key issues, as well as of the Meeting dynamics – particularly in relation to the positions of other Parties. In this regard, France seems to have a stronger awareness of the institutional history of the CEP, and possesses a strong capacity to recall, and draw upon the debates of previous years, thereby enhancing its ability to act in a fully informed context by adapting its policies and mode of interaction when necessary. To a certain extent, this might be attributed to the leadership role France has pursued within the CEP in recent years – given its enhanced level of active participation on issues within the CEP since the involvement of Dr. Frenot as Vice Chair, and now Chairman of the Committee.[8]

France and environmental protection in Antarctica

Since approving the Madrid Protocol in 1992, France has demonstrated a strong reinvigoration of its engagement within the ATS – particularly in relation to environmental protection. The significant emphasis France grants

[7] ATCM XXXII-CEP XII, "The Final Report of the Thirty-second Antarctic Treaty Consultative Meeting – Twelfth Committee on Environmental Protection Meeting" (Baltimore, 2009): 136.

[8] This is based upon not only the increased number of papers France has submitted to the CEP, but also the specific issues and subject areas on which France contributes and cooperates. For example, France takes a leading role in the CEP on issues to do with terrestrial ecology (such as cumulative environmental impacts, and the introduction of NNS), topics on which Dr. Frenot displays a particularly high level of interest and expertise within the international Antarctic scientific community. In addition, discussions with a considerable number of international ATCM and CEP delegates, indicates that Dr. Frenot has played an important role in enhancing France's cooperation within the CEP, as well as more widely within the ATCM.

to Antarctic environmental protection is evidenced by a substantial strengthening of its domestic 'legislative and regulatory provisions' in recent years.[9]

Although it has always been a major actor within the CEP, France's political presence, and participation within ATCMs has also become more prevalent throughout the last decade. The issue of Antarctic tourism has provided an important catalyst to France's political reengagement, and remains a significant policy driver for France within this forum. In fact, France was the first ATCP to pinpoint the critical importance of addressing Antarctic tourism regulation in the mid 1990s – identifying the issue to be of particular importance and urgency, given that Parties had recently agreed upon a set of comprehensive Environmental principles established under Article 3 of the Madrid Protocol that was signed by Parties in 1991.

Tourism and non-governmental activities under the Antarctic Treaty and the Madrid Protocol

The issue of tourism is not mentioned under the Antarctic Treaty.[10] Neither is it explicitly provided for under the Madrid Protocol, where it is subject only to general environmental provisions in relation to human activities within the Treaty Area, and 'a very weak application of the precautionary principle.'[11] Nevertheless, Articles 3(4), 8(2), 15(1), as well as Article 1(1) of Annex III of the Madrid Protocol, do provide some guidance in terms of

[9] France, "Antarctic Environmental Protection Under French law," *IP 13,* ATCM XXX (New Delhi, 2007): 3.
[10] Gillian Triggs and Anna Riddell, "Introduction," in *Antarctica: Legal and Environmental Challenges for the Future,* ed. Gillian Triggs and Anna Riddell, 1-10 (London: The British Institute of International and Comparative Law, 2007): 5.
[11] Shirley V. Scott, "How Cautious is Precautious? Antarctic Tourism and the Precautionary Principle," *International and Comparative Law Quarterly,* 50.4 (2001): 963.

loose regulatory arrangements for tourism and non-governmental activities within the Antarctic Treaty Area. For example, Article 3 provides a 'uniform norm' for the evaluation of all human activities on the continent, 'so as to accord priority to scientific research, and to preserve the value of Antarctica as an area for the conduct of such research;' Article 6(3) requires State cooperation in relation to the planning and conduction of activities within the Antarctic Treaty Area; and all human activity in Antarctica is subject to the environmental impact assessment (EIA) procedures under Article 8, and detailed in Annex I of the Madrid Protocol.[12] As a result, Parties that are signatories to the Antarctic Treaty and the Protocol have a 'general competence to frame tourist activities…[and] to monitor the environmental consequences stemming from these activities.'[13]

Within the framework of the ATS, work on tourism and non-governmental regulations has been undertaken by ATCPs at ATCMs, as well as through various formal multilateral channels on an intersessional basis – for example, via Antarctic Treaty Meetings of Experts (ATMEs), workshops, and ICGs. This has enabled the evolution of a broad legal framework regarding all human activities in Antarctica, which has in turn, led to the development of guidelines, as well as legally binding provisions on tourism regulation within the Antarctic Treaty Area.

[12] France, "Usefulness of an Annex VII to the Madrid Protocol regarding the regulation of tourist and non-governmental activities in the Antarctic Treaty Area," *WP 2,* ATCM XXV (Warsaw, 2002): 1.
[13] Ibid.

The development of Antarctic tourism

Since commercial tourism first commenced in the Antarctic region in the late 1950s,[14] there have been concerns that tourist activities may inadvertently impose detrimental impacts on the fragile Antarctic environment. By the mid 1960s, Antarctic tourism had become established on a more regular basis, and passenger aircraft commenced sightseeing flights during the 1970s.[15] Nevertheless, up until the 1990s, the majority of tourists visiting the continent travelled via commercial cruise liners. In the last two decades air travel has also become an increasingly popular mode of transportation for tourists. [16]

Currently, there are no legal means of limiting the number of tourists visiting Antarctica, with international regulation largely left to industry. Within the context of the Antarctic Treaty, and under the auspices of the Madrid Protocol, an international business association, the International Association of Antarctic Tour Operators (IAATO), has contributed to the development of self-regulated rules to which its members are subject.[17] Consequently, it is up to the discretion of States to regulate visitor permits, and it is ultimately the responsibility of the tourism operators to ensure that environmental principles are upheld.

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[14] The first maritime tourist voyages to the region were undertaken by Argentina and Chili in the late 1950s. The first Antarctic tour operator was Swedish national, Lars-Eric Lindblad who undertook tourist expeditions from the mid 1960s. See, Emilia Leroux, "La sauvegarde de l'environnement Antarctique, quarante ans après le Traité original ou l'émergence d'une conscience écologique," *Revue Juridique Environnementale,* 2 (2000): 179-196; and Mathias Strobel, "Le tourism en Antarctique: un enjeu géopolitique," *Hérodote,* 127 (Paris: La Découverte, 2007): 172.

[15] Rosamunde J. Reich, "The development of Antarctic tourism,' *Polar Record* 20.126 (1980): 203-214.

[16] Departing Punta Arenas, Chile, in 1956, the first aircraft carrying tourists flew across the South Shetland Islands and the Northern Antarctic Peninsula region.

[17] Established in 1991, IAATO attends ATCMs as an official Observer. Currently, there are 111 IAATO Members internationally.

Although a range of decisions, measures, and resolutions have been implemented by ATCPs over the years in order to regulate tourist activities (including those that set visitor restrictions to certain areas, and establish periods closed to tourism activities throughout the year), tourist statistics continued to grow on an almost annual basis throughout the 2000s. In order to accommodate this, an increasing number of sites have been opened. As a result, many sites already popular among tourist operators are under increasing ecological pressure due to the risks and impacts associated with human activities – most notably, marine and terrestrial pollution, the introduction of NNS (including pests and diseases), damage to historic sites and monuments, and detrimental effects on native fauna and flora (heightening the risk of biodiversity loss), are all prevalent and pressing concerns on the agendas of both the CEP, and the ATCM.[18]

The abundant biodiversity and accessibility of the Antarctic Peninsula region, and surrounding sub-Antarctic islands, has resulted in a particularly heavy concentration of tourist activities in this area.[19] It is the region most frequented by tourist vessels, and is subjected to the highest concentration of human activity.[20] This is particularly concerning, as there is generally a lack of available knowledge on the full extent and level of tourist activities taking

[18] See, Leroux, "La sauvegarde de l'environnement Antarctique."
[19] B. Stonehouse, K. Crosbie, and C.M. Hall, "Tourism Impacts and Management in the Antarctic Peninsula Area," in *Polar Tourism: Tourism in the Arctic and Antarctic Regions*, edited by C.M. Hall, and M.E. Johnston, 217-233 (Oxfordshire: CABI International, 1995).
[20] Julia Jabour, "Would You Like Ice With That? Antarctic Tourism and Climate Change," in *Disappearing Destinations – Climate Change and Future Challenges for Coastal Tourism*, edited by Andrew Jones and Mike Phillips, 177-191 (Oxfordshire: CABI International, 2011); Kees Bastmeijer and Ricardo Roura, "Regulating Antarctic Tourism and the Precautionary Principle," *The American Journal of International Law*, 98.4 (2004): 763-781; Lorne K. Kriwoken, and David Rootes, "Antarctic Tourism – Tourism on Ice: Environmental Impact Assessment of Antarctic Tourism," *Impact Assessment and Project Appraisal*, 18.2 (2000): 138-150; David Helvarg, "Is Rise in Tourism Helping Antarctica or Hurting it?" *National Geographic News* (22 August 2003), http://www.news.nationalgeographic.com/news/2003/08/0822_030822_antarctictours.html.

place on shore.[21] In addition, tourist activities impact on the conduction of scientific research – not only due to the visitation of tourists at sites frequented and utilised by scientists for research purposes, but also because the majority of tour programs also include visits to scientific bases.[22]

The progression of knowledge on Antarctic tourism, coupled with a greater awareness of its potential impacts on the environment in recent years, indicates that visitor guidelines are insufficient in ensuring the limitation of negative environmental impacts – particularly in relation to fauna and flora, and most especially during the reproductive and nesting periods of certain bird and mammal species.[23] The unprecedented rise in the volume of tourist activity in the region has significant implications in regard to the capacity of ATCPs to fulfil the key objectives of both the Madrid Protocol, as well as more broadly, the Antarctic Treaty.[24] Taking this into consideration, ATCPs recognised upon the entering into force of the Treaty, the critical importance of addressing the issue of tourism and non-governmental activities within the forum of ATCMs.

Tourism and the ATCM agenda

Tourism has been an issue on the agenda of the ATCM for over four decades. However, it has only been since the establishment of the Madrid Protocol, that ATCPs have begun to address tourism (and the regulation of it) in a

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[21] Pamela B. Davis, "Beyond Guidelines: A Model for Antarctic Tourism," *Annals of Tourism Research,* 26.3 (1999): 516-533.
[22] John Snyder, "Tourism in the Polar Regions – The Sustainability Challenge," *United Nations Environment Program/International Ecotourism Society Publication* (UNEP: 2007): 1-49.
[23] Pamela B. Davis, "Antarctic visitor behavior: are guidelines enough?" *Polar Record,* 31 (1995): 178.
[24] Stonehouse, Crosbie, and Hall, "Tourist Impacts and Management in the Antarctic Peninsula Area," 217. See also, Roberto Guyer, "The Antarctic Treaty System," *Receuil des Cours*, 139 (1973): 213.

more coordinated and comprehensive manner. Prompted by the rapid expansion and diversification of tourism activities in the Antarctic Treaty Area[25] over the last decade, a heightened awareness of these activities and the associated human and environmental consequences for the Antarctic, has been growing steadily among a number of ATCPs. As a result, consideration of the tourism issue has become not only more prevalent and pressing, but also more organised and structured within the ATCM.

According to Scott, the 'received wisdom' that has tended to be cultivated within the ATS, indicates that tourism is largely perceived as both a 'natural' and 'inevitable' development.[26] In this regard, it has evolved into a widely accepted principle – despite the fact that some ATCPs may disagree that tourism constitutes an activity of near or equal validity to that of scientific research in Antarctica. Nevertheless, the widespread acceptance of tourism as a legitimate pursuit in the region, leads to the question of its regulation. The current challenges and controversies associated with Antarctic tourism do not relate to legitimacy, but rather pertain to differences of opinion amongst ATCPs on how tourism activities should be organised, undertaken, managed, and regulated effectively, and the specific rules to which tourism should be subjected.

Despite the fact that the ATS has traditionally 'prided itself on its preventative attitude toward the regulation of human activity,'[27] the rising number of tourists visiting Antarctica, coupled with the emergence of new types of tourism occurring in the Antarctic Treaty Area in recent years (for example, adventure tourism), are factors issuing new and complex

[25] Antarctic Treaty Area refers to the geographic boundaries established by the Antarctic Treaty.
[26] Scott, "How Cautious is Precautious?"
[27] Ibid.

challenges for the ATCPs. Consequently, and in light of the environmental protection principles enshrined within the Madrid Protocol, the growth of tourism is increasingly necessitating the development of rules and regulations comparable to the nature and level of the activities being undertaken – a point to which France attaches strong importance.[28] In this regard, Article 3 of the Madrid Protocol stipulates that activities undertaken in the Antarctic Treaty Area are organised and undertaken in such a way as to limit their potential negative impacts on the environment. In ensuring the application of the precautionary principle, it is clear that there must be a 'balancing of the environmental risks associated with a particular human activity against any benefits to be achieved from engaging in that activity.'[29]

ATCPs also recognise the significant challenges associated with managing the legal responsibilities of Antarctic tourism.[30] Considering the various instruments adopted by ATCPs in regard to tourism activities over the last decade, a shift in the focus towards prioritisation is apparent.[31] While the consideration and approach of ATCP's to tourism was initially more general in scope, in recent years there has been an increasing emphasis placed upon regulatory aspects aimed at ensuring environmental protection.

ATCPs began considering tourism in greater detail throughout the 1970s, adopting some general recommendations aimed at regulating tourist activities.[32] Particular attention was paid to addressing the challenge of managing the visitation of tourists sponsored from non-Treaty Member

[28] Leroux, "La sauvegarde de l'environnement Antarctique."
[29] Ibid.
[30] Ibid.
[31] For a full list of all the instruments currently in force, see the Antarctic Treaty Secretariat website, http://www.ats.aq.
[32] Recommendation VI-7, adopted at ATCM VI (1970), and Recommendation VII-4, adopted at ATCM VII (1972).

nations, and an increasing emphasis was placed upon ensuring that adequate provisions were developed to limit environmental impacts. With these factors in mind, ATCPs recognised the importance of establishing designated tourist areas, and developed information for tourists regarding all provisions that they were required to comply with when entering the Antarctic Treaty Area – in effect, establishing the first visitor guidelines for the Antarctic.[33] Intending to organise tourist, as well as non-governmental activities in the Antarctic, these guidelines have since been further developed, and strengthened further by ATCPs. For example, Measure 4 of 2004 (not yet in force)[34] builds upon the tourism guidelines appended to Recommendation XVIII-1 of 1994.[35]

Specific guidelines for the sites most frequented by tourists have also been established. These provide practical advice for tour operators and guides in relation to the conduction of tourist activities, and intend to ensure respect and awareness for the environment amongst visitors. Tour operators are also subject to specific requirements – for example, setting short disembarkation periods, ensuring the non-introduction of alien plants or species, and respect for native species and vegetation (especially in protected zones), and preventing any impacts on the conduct of scientific research. In this respect, aimed at preventing negative environmental impacts on both scientific, as well as aesthetic values, Resolution 3 (2011) outlines the general guidelines for visitors undertaking activities in any location in Antarctic.[36]

It is important to note that the regulation of tourism in a geographical area managed by an international treaty that makes no specific mention of the

[33] Guyer, "The Antarctic Treaty System," 214.
[34] Measure 4 (2004) is currently still being adopted by ATCPs.
[35] Recommendation XVIII-1, adopted at ATCM XVIII (1994).
[36] Resolution 3, adopted at ATCM XXXIV (2011).

issue of tourism raises a number of legal challenges and geopolitical concerns – particularly in relation to sovereignty, environmental impacts, and SAR issues. These issues have been granted increasing attention by Parties within the forum of the ATCMs in recent years, and as a result, tourism now occupies a significant proportion of the ATCM agenda.

In order to address the fundamental issues associated with tourist activities more fully, an entire Working Group dedicated to the issue has been established within the forum of the ATCM. In addition to this, two Antarctic Treaty Meetings of Experts (ATME) on Tourism and Non-Governmental Activities have been convened in recent years. The ATCM has worked systematically toward developing more comprehensive tourism regulations, and the CEP has undertaken a long-term study on the environmental impacts of tourism that aims to assist the ATCM in the development of tourism policy.

Although tourism began to increase steadily throughout the 1990s, it accelerated exponentially since the turn of this century.[37] According to statistics from IAATO,[38] while 6704 people visited Antarctica in the 1992/93 season, this number rose to 13 600 by 2001/02, and seven years later, peaked to over 46 000 in 2007/2008.[39] While IAATO data indicates that total tourism numbers have levelled off to around 34-37 000 in the last few years, these figures remain a major concern to some ATCPs – most notably France, a

[37] Strobel, "Le tourism en Antarctique," 166.
[38] These figures relate to both land based as well as seaborne activities. See, http://iaato.org/tourism-statistics.
[39] Samuel Deliancourt, "Les mesures de protection de l'environnement en Antarctique adoptées par la france depuis 2005," *Revue Juridique de l'Environnement*, 1 (2008): 25-37; Samuel Etienne, "Tourisme et environnement polaire – enjeux et perspectives" dans *Le Monde Polaire – Mutations et Perspectives,* sous la direction de Marie-Françoise André, 81-96 (Paris: Ellipses Editions Marketing): 85.

Party which strongly advocates and encourages the development of stronger regulatory measures to ensure the protection of the fragile Antarctic environment and the safety of tourists.

(i) The Tourism and Non-Governmental Working Group

The ATCM Tourism and Non-Governmental Working Group[40] provides the primary forum in which specific discussions on the issue of tourism within the Antarctic Treaty Area take place. It involves the participation of ATCPs, non-contracting Parties, as well as relevant expert organisations invited to participate as observers. The complexities surrounding tourism activities (coupled with the intricacies and challenges of other issues that are implicated with it), means that while considered as an issue on the ATCM Tourism Working Group agenda, tourism discussions benefit significantly from consultation and cooperation with both the CEP, as well as the Operations and Legal Working Groups, through their capacity to provide relevant expertise, advice, and recommendations.

As an active and contributing participant on tourism within the ATCM, France has also occupied a leadership role on the issue – former head of the French delegation, Mr Michel Trinquier, occupied the role of Chairman of the ATCM Tourism and Non-Governmental Activities Working Group from 2002 to 2008. Following a period characterised to a certain extent by lower levels of French activity within the ATCM, Mr Trinquier's role significantly contributed towards reinvigorating France's political reengagement in Antarctic affairs. Over the last decade, France has submitted consistently a high volume of working papers on various topics related to tourism

[40] Hereafter referred to as the Tourism Working Group.

activities, and proposed a number of recommendations related to its regulation. This highlights the significant level of expertise France demonstrates on this issue, as well as its ongoing commitment to progressing work in this area.

The role of the ATCPs is fundamental to the management and regulation of tourism for a number of key reasons – foremost, with respect to their positions as signatories to the Antarctic Treaty, as well as to the Madrid Protocol, but also in their capacity as flag states implementing various other related international agreements (for example, the International Maritime Organization (IMO)), through the provision of port facilities for tour operators, and also via their role as coordinators of SAR procedures. Most importantly, it is the responsibility of ATCPs to ensure that existing rules and regulations for tourism are sufficient to ensure environmental protection.

Nevertheless, despite the fundamental role of ATCPs on this matter, tourism is an issue that has traditionally demonstrated a tendency to divide opinions amongst Parties. While various non-governmental organisations (NGOs), as well as a number of Parties demonstrate concern regarding the continual expansion of tourism activities (evidenced by the significant number of tourism related papers presented at ATCMs, and by the amount of discussion time granted to the topic within both the ATCM, as well as the CEP), opinions regarding the nature and extent of necessary regulatory arrangements among ATCPs remain divided.

Despite the fact that ATCPs have to a certain extent, delegated some level of authority to IAATO, a definitive, coherent, and consistent common philosophy on a wide range of issues related to tourism (especially regarding

regulatory approaches) is generally lacking within the ATCM – from whether tourism should be permitted at all, to debates surrounding the necessary mechanisms to manage it, and the ability to assess accurately the extent of environmental impacts. This can be highly problematic for the effective management of tourism activities, and often constitutes the most significant stumbling block to tourism negotiations. Adding to the complexity of the management of tourism, is the fact that some Parties (most notably those calling for ATCPs to establish stronger tourism regulations, such as France) must begrudgingly accept the current status quo in terms of regulations if consensus is to be achieved. This often results in an overall lack of progress on definitive policy developments from one ATCM to the next.

With such a wide spectrum of opinions, there is a heightened potential for disagreement, and confrontation between Parties – factors that ultimately make consensus more challenging to achieve. However, as tourism numbers and human activities on the continent have continued to increase, Parties must now more than ever, endeavour to reach a mutual understanding on the topic. This will involve identifying, and agreeing upon key problem areas and regulatory gaps, with the objective of establishing an overall coherent framework that allows Parties to overcome differences, and develop common methods and approaches. The end result must aim for the implementation of consensually agreed upon policies that ensure comprehensive environmental protection based on robust science, whilst also permitting Antarctic tourism to take place.

(ii) The Meetings of Experts on Antarctic Tourism

Parties have convened two ATMEs on tourism and non-governmental activities in recent years. The first was held in Tromsø, Norway in 2004,[41] and the second, in Wellington, New Zealand in 2009.[42] The first ATME aimed to undertake a comprehensive assessment of the current trends and major issues associated with Antarctic tourism – including: cumulative impacts; safety and SAR; jurisdictional matters; consideration of the legal frameworks; site guidelines; adventure (extreme tourism); and coordination between national operators.[43]

The second ATME focused on issues related to ship-borne tourism, including maritime safety and search and rescue within the Antarctic Treaty Area. Specifically, consideration was granted to: vessel operation; environmental impacts and safeguards; emergency response action (as outlined in Article 15 of the Madrid Protocol); oil pollution response and clean up procedures; vessels flagged to non-Parties; and methods of enhancing cooperation between the ATCM, the IMO, and the International Hydrographic Organization (IHO).

The two ATMEs facilitated ATCPs capacity to maintain a substantive work program on key tourism issues throughout intersessional periods. This has enhanced information exchange, the sharing of advice and experiences, and

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[41] In accordance with Decision 5 (2003). See, Antarctic Treaty Meeting of Experts on Tourism and Non-Governmental Activities in Antarctica, "The Chairman's Report" (Tromsø, Norway, 22-25 March 2004).

[42] In accordance with Decision 7 (2009). See, Antarctic Treaty Meeting of Experts on the Management of Ship-borne Tourism in the Antarctic Treaty Area, "The Chairman's Report" (Wellington, New Zealand, 9-11 December 2009).

[43] France submitted a working paper to the 2004 ATME on Tourism and Non-Governmental Activities in Antarctica, outlining the deficiencies in the current legal framework.

also encouraged cooperation on areas of joint interest. Overall, ATMEs improved preparation for ATCMs, and enhanced the capacity for Parties to make well-informed and practical recommendations to the ATCM. For example, Measure 4 (2004)[44] relating to tourism and non-governmental guidelines was agreed upon by ATCPs at the Twenty-Seventh ATCM in 2004, following on from the ATME earlier that same year. The ATME in 2009 on ship-borne tourism provided instrumental advice to ATCPs that has contributed to the development of relevant SAR recommendations.

France and the issue of tourism in the Antarctic Treaty Area

According to France, Antarctica has become 'a land threatened by the increasing intrusion of human activities – with the principal threat resulting from the development of tourism.'[45] Considering these activities to have a 'major impact on the environment,' France strongly maintains that tourism must be subject to closely monitored regulatory mechanisms.[46] Given the increasing number of tourists visiting Antarctica, France places great emphasis on ensuring that new initiatives and measures continue to be developed to counteract any potential impacts on the Antarctic environment, and to ensure the principles of the Madrid Protocol are strictly upheld.[47] For example, at the Fifteenth ATCM in 2002, France expressed concern that the intermittent discussion of tourism within ATCMs was currently insufficient, and encouraged all Parties to consider the issue in more depth.

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[44] Resolution 4 (2004), adopted at ATCM XXVII.
[45] Délphine Sombetzki-Lengagne, "Commentaire de la loi N° 2003-347 du 15 avril 2003 relative à la protection de l'environnement en Antarctique," *Revue Juridique de l'Environnement,* 4 (2003): 447-460.
[46] Strobel, "Le tourism en Antarctique," 175.
[47] André Oraison, "La position et le role particulier de certains états dans le processus de protection du continent Antarctique – le cas spécifique de la France en sa double qualité d'Etat possessionné et d'Etat conservationiste,' *Revue Juridique de l'Environnement,* 1 (2005): 145-162; Leroux, "La savegarde de l'environnement Antarctique," 179-196.

In advocating a structured and organised approach to tourism and associated issues, France emphasises a number of key points. First and foremost, the need for tourism regulation; second, the importance of developing a clear and coherent outline of regulatory approaches; and third, the need for clarity surrounding the details of this regulation, or rather, the precise form it should take. France maintains that while the 'search for rules worth examining and adopting' is essential, it is also fundamentally important to consider 'how such a regulation should be adopted.'[48] It is this particular point that is of critical importance in understanding how France operates concerning tourism issues within the ATCM. While most Parties agree that some form of regulation is essential, it is how such regulations should be developed and implemented, and what exactly they should consist of, that remains a point of divergence between France and a number of other Parties, and one that more widely often constitutes a highly sensitive and much debated topic within the Tourism Working Group.[49]

Continuing to draw attention to the need for a debate on the form of tourism regulations, France advocates not only a harmonisation of existing regulations, but also an assessment of the accuracy and overall efficiency of existing mechanisms. A harmonised and streamlined approach is especially important in light of the fact that Antarctic tourism is managed on the basis of binding measures adopted by the ATCM, guiding principles established internally by IAATO, as well as being subject to the different rules adopted at the national level by individual Parties.[50] According to France, 'efficiency

[48] France, "Usefulness of an Annex VII to the Madrid Protocol," 3.
[49] For example, some Parties – most notably, the US and the UK strongly maintain that tourism, and the regulation of it, is already covered adequately under the provisions of the Madrid Protocol.
[50] France, "Report of the Informal Intersessional Group on Tourism Activities in Antarctica," *IP 12,* ATCM XXVI (Madrid, 2003): 4.

[is the] issue at stake,' and given these legal and regulatory complexities, a consolidation of existing regulations is vital.[51]

(i) French law regarding Antarctic tourism

In order to meet their obligations under the Madrid Protocol, signatory Parties must adopt relevant national laws and regulations, and ensure the compliance of their nationals. It is the responsibility of Parties to decide how the obligations of the Protocol are translated into national laws. As a result, a totally 'uniform implementation of the Protocol is impossible given the diverse approaches of national legislations.'[52] Confirming this point, Etienne adds that the management of Antarctic tourism on an individual basis is challenging 'due to the absence of national sovereignty, and therefore of judicial competence.'[53]

In terms of the regulation of tourism and non-governmental activities, it is the responsibility of State Parties that are signatories to the Madrid Protocol to ensure that (as stated in Article 13(1)), 'all appropriate measures, including laws and regulations, administrative actions and enforcement measures required to ensure compliance' are upheld.[54] Operators from those nations that are signatories to the Treaty must respect and act in accordance with the regulations established by that State. As it is up to the discretion of individual State Parties to ensure the adequate stringency of their national regulations, there is high potential for the existence of legal loopholes that may be exploited by tour operators.

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[51] Ibid.
[52] ATCM XVIII, "The Final Report of the Seventeenth Antarctic Treaty Consultative Meeting," (Kyoto, 1994): para 37.
[53] Etienne, "Tourisme et environnement polaire," 91.
[54] Madrid Protocol, Article 13, paragraph 1.

France has expressed concern that 'ambiguities and freedom of interpretation pave the way for opportunistic conduct and for the adoption of minimal rules or standards by State Parties,' thereby risking the lowering of minimum regulatory standards.[55] As a result, France perceives that it is vitally important that 'any source of disagreement between State Parties be avoided, and that regulations be consolidated, in order to minimise the chances of 'tourism dumping' – for example, in instances where a tour operator may deliberately establish operations within a State that does not have strict, enforceable environmental regulations in place.[56]

In ensuring the effective application of the objectives of the Madrid Protocol, the establishment of a system that legally necessitates the declaration, and then authorisation of any human activity undertaken on the Antarctic continent is vital.[57] In order to understand France's position on tourism regulation in the Antarctic, it is necessary to first briefly consider its overall national regulatory framework on environmental protection as it relates to the Antarctic.

The major French agencies involved with environmental protection in Antarctica comprise, the *Préfet* in charge of the *Terres australes et antarctiques français (TAAF)*, the Committee for the Polar Environment (CPE),[58] the Ministry of Foreign Affairs, the Ministry for Ecology and Sustainable

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[55] Ibid.

[56] France, "Consolidation of Regulations on Tourism and Non-Governmental Activities in Antarctica,' *IP 11,* ATCM XXVIII (Stockholm, 2005): 2.

[57] Sombetzki-Lengagne, "Commentaire de la loi N° 2003-347."

[58] Established by a decree in 1993 (amended in 2002, and renewed in 2005), the CPE comes under the Minister of the Environment, and is responsible for the review of France's human activity agenda in the polar and sub-polar regions in order to ensure compatibility with environmental protection principles. See, Anne Choquet, "The implementation of the Madrid Protocol on the Protection of the Antarctic Environment by France," in *The Antarctic Legal System: The Protection of the Environment in the Polar Regions,* ed. Gianfranco Tamburelli, 185-205 (Milan: Guiffre-Editore, 2008).

Development, and the *IPEV*. The Madrid Protocol was approved under French law in December 1992,[59] and published in 1998.[60] In 2003, France officially incorporated the relevant provisions of the Madrid Protocol into its Environmental Code, in order to provide regulations relative to human activity in Antarctica, and ensure the environmental protection of the region.[61]

In terms of France's national regulatory scope, it has 'opted for the broadest possible approach to environmental protection in Antarctica.'[62] In this regard, scientific research, as well as logistic and non-governmental activities, is encompassed under the application of French legislative and regulatory measures within the Environment Code.[63] The carrying out of all activities (regardless of whether these activities are scientific, logistical, non-governmental or tourism based) in Antarctica necessitates either a declaration, or an authorisation (depending upon whether the planned activity is considered to have a less than minor or transitory impact, or a more than minor or transitory impact). However, France decided that all tourism related activities should be automatically subject to authorisation requests – a point that clearly highlights France's strong regulatory position on Antarctic tourism.

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[59] Under Law n° 92-1318 of 18 December 1992 (*J.O.R.F.* n° 295 of 19 December 1992).
[60] Decree n° 98-861 of 18 September 1998 (*J.O.R.F.* n° 222 of 25 September 1998): 14692.
[61] Book VII of the Environment Code relates to Antarctic environmental protection, under Law n° 2003-347, dated 15 April 2003, relative to the protection of the Antarctic environment (*J.O.R.F.* n° 90 of 16 April 2003): 6727, completed by Decree n° 2005-403 of 28 April 2005, relative to the protection of the Antarctic environment and modifying the environmental Code (*J.O.R.F.* n° 101 of 30 April 2005): 7563; and Ministerial Order defining the list of activities regulated under article R. 712-3 of the Environment Code (*J.O.R.F.* n° 128 of 3 June 2006, dated 23 May 2006).
[62] France, "Antarctic environmental protection under French law," 4.
[63] Article L.711-2 of the Environment Code relates in a general sense to the "organisation and execution of activities in Antarctica."

In order to ensure the comprehensive protection of the Antarctic environment, France also requires notification from not only its nationals organising or participating in an expedition (or those organised with the aid of French vessels), but also all other expeditions that take place within its Antarctic territory. As a claimant State, France has the right to subject all cruise vessels disembarking at Adelie Land to French national law.[64] Activity authorisation requires adherence to a complex series of legal and administrative steps. French, or foreign nationals seeking to undertake activities in Antarctica must first complete an authorisation package that provides detailed information of the visit.[65] This may include either a preliminary environmental impact assessment, or a global environmental assessment. In the case of the former (and before a decision pertaining to authorisation can be made), the information contained in the package is considered by the *Préfet* of the *TAAF* in consultation with the CPE, several months in advance of the planned date of activity.

Where the latter is the case, a project is considered to have more than a minor or transitory impact, and the application for authorisation must be issued a year in advance to allow adequate time for consideration by the CPE, the Ministry of Foreign Affairs, and the CEP, before final review by the ATCM. Dependent upon the final outcome of the assessment for authorisation, the *Préfet* may authorise the activity, unless there is disagreement between the decision reached by the *Préfet*, and the decision of the CEP. In this case, the final decision for authorisation rests with the Minister of the Environment.[66] Activities undertaken without prior authorisation may be subject to administrative, and/or criminal sanctions under French national law.

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[64] Strobel, "Le tourism en Antarctique," 20; Laurence Caramel, "Le tourisme en Antarctique plus strictement encadré," *Le Monde* (22 avril 2009).
[65] Leroux, "La sauvegarde de l'environnement Antarctique."
[66] France, "Antarctic environmental protection under French law," 5-6.

(ii) France and tourism regulation

In France's view, the ongoing expansion of tourism activities predicates the development of more stringent rules and regulations. Active on the issue of tourism guidelines, France has submitted several papers on this topic to the ATCM over recent years. The establishment of guidelines to control site visitations has been established by ATCPs through the adoption of Resolution 5 (2005) and Resolution 1 (2010). France maintains that the steps taken in these resolutions could, and rather need to be modified and strengthened further, especially in light of changing environmental circumstances.[67] France has led informal intersessional discussions on this matter in recent years, and reported on behalf of all Parties participating in these discussions to the Meeting of the CEP in 2009.[68] On this basis, the CEP took up France's suggestion of convening an ICG to undertake further consideration of site guideline regulations.

Recalling Recommendation VIII-9 (1975) that draws attention to 'the necessity to limit the number of sites where tourists are allowed to land in large numbers, in order to assess the ecological effects of their presence,' and following on from a working paper submitted at the Twenty-Ninth ATCM, France submitted a proposal including a 'Resolution Project' at the Thirty-Fourth ATCM in 2011. This proposal suggested placing restrictions on the number of sites open to tourism activities to those that have existing site guidelines. This is of particular importance in relation to Antarctic Specially Protected Areas (ASPAs), and Antarctic Specially Managed Areas

[67] France, "Report on informal discussions about the non-specific information contained in the Site Guidelines for Visitors to Antarctica," *WP 9*, ATCM XXXII (Baltimore, 2009): 3; France, "Limitation of tourism and non-governmental activities to sites under Guidelines for Site Visits only,' *WP 46*, ATCM XXXIV (Buenos Aires, 2011): 3.
[68] ATCM XXXII-CEP XII, "The Final Report," 110.

(ASMAs).[69] Furthermore, France strongly encourages ongoing work with the CEP on this matter – suggesting an update of the list of current sites with guidelines, as well as the identification of other sites that may benefit from such guidelines in the future. In relation to its proposal, France offered to conduct informal bilateral discussions with other interested Parties in order to progress work on this matter.[70]

Occupying a clearly identifiable and well-established position on Antarctic tourism, France pursues a strategic approach on the issue within the ATCM – seeking strengthened regulations, as well as more concrete action on behalf of ATCPs in this regard. While France accepts that tourism constitutes a legitimate activity in the Antarctic (indeed, it has stated that it would 'not be advisable to prohibit tourism development, provided it is duly regulated'), its overall approach to the issue within the forum of the ATCM indicates that it perceives tourism to have less justification for causing environmental and safety impacts than other activities, (such as scientific research), and should therefore be subject to the strongest regulatory mechanisms.[71] Pursuing this policy direction within the ATCM, France has consistently outlined its concern that ATCPs have not granted adequate attention to the comprehensive regulation of tourist activities. This view is supported by the working papers France submits on tourism regulation and associated issues, the nature of the proposals and recommendations it puts forward, and the way in which it initiates and participates in discussions within the ATCM and related forums convened under the ATCM.

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[69] Access to ASPAs is not permitted unless granted in pursuance of a Management Plan, while activities undertaken in ASMAs are allowed without a permit, but under a code of conduct that has been established by a Management Plan. See, Madrid Protocol, *Annex V on Area Protection and Management,* Article 3.

[70] France, "Limitation of tourism and non-governmental activities," 3.

[71] France, "Report of the Informal Intersessional Group on Tourism."

(iii) A separate annex for tourism?

In pursuing a regulatory approach, France has recommended the development of a separate annex (or the addition of an annex) to the Madrid Protocol that specifically governs tourist activities. While the Madrid Protocol outlines some broad enforceable provisions for those undertaking scientific, logistical, or tourist activities in the Treaty Area, 'these rules have not been laid down [exclusively] for the purposes of tourists.'[72] Given that the primary purpose of the Madrid Protocol is the protection of the Antarctic environment and dependent and associated ecosystems, this is perceived by France to be a major regulatory gap. While applauding the value of the Madrid Protocol, and strongly upholding its principles at every opportunity (indeed it was one of two States instrumental to its negotiation), France maintains that it is regrettable that 'tourism is not put forward within the framework of a [separate] instrument.'[73]

Informal discussions on the development of a separate annex first took place prior to the Seventeenth ATCM held in Venice, Italy in 1992. This led to the development of a joint initiative on behalf of France, Chile and Italy, outlining a draft annex to the Madrid Protocol for the regulation of tourism and non-governmental activities in the Antarctic Treaty Area. Despite France's commitment to encourage Parties to develop a separate annex, consensual agreement on this issue failed to be reached. Nevertheless, it prompted ATCPs to take some regulatory action, resulting in the decision to formulate guidelines for the planning and conduction of tourist and non-governmental activities at the next ATCM held in Kyoto, Japan in 1994.

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[72] France, "Usefulness of an Annex VII to the Madrid Protocol," 2.
[73] Ibid.

France reinitiated the proposal for a separate tourism annex at the Twenty-Fifth ATCM in Warsaw, Poland in 2002.[74] Based upon the interest demonstrated by some Parties, and in order to progress more substantive collaborative work on this matter, France coordinated, and acted as moderator at an informal intersessional meeting before the next ATCM. Once again, France placed the issue of a separate annex on the Tourism Working Group agenda at the Twenty-Sixth ATCM held in Madrid, Spain in 2003. In doing so, France intended to encourage enhanced cooperation between Parties, the tourism industry, and relevant NGOs, 'share their points of view and concerns,' and ensure that 'both environmental protection and tourism development may be pursued in parallel.'[75] Nevertheless, despite France's significant efforts in regard to the development of a separate tourism annex since the early 1990s, due to the 'different views on the need for a separate annex,' agreement within the ATCM has not been reached on this matter.[76] This can be attributed largely to the fact that some Parties (notably, the US, the UK, and also Australia) perceived the development of a separate annex as an 'unnecessary' step, maintaining that 'the timely and effective implementation of the Protocol and its annexes, and the subsequent enforcement of their provisions was the most appropriate way to regulate tourism.'[77]

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[74] Ibid; France, "Report of the Informal Intersessional Group on Tourism Activities."
[75] France, "Usefulness of an intersessional working group on the adoption of a regulation on tourism activities in Antarctica," *WP 29*, ATCM XXVI (Madrid, 2003).
[76] Kees Bastmeijer, *The Antarctic Environmental Protocol and its Domestic Legal Implementation* – International Environmental Law and Policy Series (The Hague: Kluwer Law International, 2003), 277.
[77] Mike G. Richardson, "Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction," in *Implementing the Environmental Protection Regime for the Antarctic*, ed. Davor Vidas, 71-90 (Dordrecht: Kluwer Academic Publishers, 2000), 78.

(iv) France's 'droit d'entrée'

In an effort to limit the number of tourists visiting the *TAAF*, France decided to introduce a *'droit d'entrée,'* or entry tax for tourists and vessels intending to visit the French Antarctic territories in June 2001. Regarded as an environmental protection policy by the French, the initiative consisted of both a mooring/docking tax for vessels, as well as a landing/entry tax for tourists.[78]

From France's perspective, this action provided a means of ensuring sustainable tourism development, as well as regulation of tourism activities within its sovereign territories.[79] It was the first time that an Antarctic claimant State had demonstrated an intention to use its territorial claim as a means to implement taxation initiatives. *Préfet* of the TAAF at the time, Mr François Garde, confirmed that France (as well as other claimant States) possessed the legal right to impose taxes under the Antarctic Treaty, and that France was under no obligation to explain its actions. However, France chose not to progress this initiative at the Twenty-Fifth ATCM in 2002, based upon the fact that the proposal was met with a significant level of concern by a number of ATCPs.[80] Most notable amongst these concerns, was that the

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[78] Arrêté n° 2001-19 du 29 juin 2001, instituant une taxe de mouillage dans les Terres australes et antarctiques françaises, *Journal Officiel des Terres australes et antarctiques françaises*, n° 10 (2ème trimetstre 2001): 210; et Arrêté n° 2001-20 du 29 juin 2001, instituant une taxe territorial de séjour dans les Terres australes et antarctiques françaises, *Journal Officiel des Terres australes et antarctiques françaises*, n° 10 (2ème trimetstre 2001): 211. See, Anne Choquet, "Vers une protection globale l'environnement en Antarctique: l'apport du Protocole de Madrid du 4 octobre 1991," *Thèse de doctorat* (Brest: Université de Bretagne Occidentale, 2003): 67.

[79] Sandra Thebaud, "La réglementation du tourisme en Antarctique," *Mémoire de Recherche*, sous la direction de madame Anne Choquet (Brest: Université de Bretagne Occidentale, 2010): 26.

[80] Arrêté n° 2002-17 du 1er juillet 2002, relatif à l'application de la taxe de mouillage et de la taxe territorial de séjour pour la terre Adélie, *Journal Officiel des Terres australes et antarctiques françaises*, n° 15 (3ème trimestre, 2002): 4.

action could potentially undermine the principle of international cooperation contained in the Antarctic Treaty, and reignite territorial disputes.[81]

It is important to note that the logic behind some of France's tourism proposals and recommendations (such as the one outlined above) have not always been clearly identifiable to other Parties – many of whom possess divergent views on the topic.[82] Traditionally, this has presented a challenge for France – as a number of its proposals have at times been rejected by a large number of ATCPs. While the majority of Parties recognise considerable value and merit in France's proposals, and acknowledge its positive contribution to the debate at hand, many Parties do not agree with France's methods or approaches in practice.

At the Thirty-Fourth ATCM in Buenos Aires, Argentina in 2011, France submitted a working paper proposing the limitation of tourism and non-governmental activities to sites with existing guidelines.[83] In order to improve knowledge of the impacts of landings at these sites, enhance tourist safety, and mitigate potential accidents, the proposal aimed to encourage tourism operators to restrict visits to those sites with established guidelines.

While some ATCPs shared the 'environmental sentiments' of the French proposal, overall, and agreed that it 'raised some important questions that needed to be addressed further in the future,' it was met with a significant level of opposition by a large number of Parties.[84] Most notable among the

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[81] See, Nick Squires, "French tax puts at risk Antarctic accord," *The Telegraph* (17 February 2002), http://www.telegraph.co.uk/news/worldnews/antarctica/1385138/French-tax-puts-at-rick-Antarctic-accord.html.

[82] Most notably, the US, the UK, Argentina, and to a lesser extent, Australia.

[83] France, "Limitation of tourism and non-governmental activities."

[84] The Final Report of the Meeting indicates the contrary points of view on the issue of restricting tourism visits to sites with guidelines only, held by Argentina, Australia, the

concerns expressed was the potential negative environmental impacts of limiting the number of sites visited – as this would result in an increased pressure on sites that already received a high level of human traffic (from both tourists and scientists), as well as those sites that are particularly ecologically vulnerable.[85] Some Parties also drew attention to the fact that France's proposal did not seem to take into account that there are no site guidelines in place for land-based tourism.'[86]

Currently, France is also placing strong emphasis on addressing the emerging issue of the new types of tourism that have started to occur more frequently in the Antarctic region. For example, adventure tourism (discussed more fully in the following section) is one such activity that poses particular challenges for ATCPs, and as a result, is currently being considered more fully within the forum of the ATCM.

It is also important to note the role played by individuals in shaping national policy approaches to certain issue areas – thereby enhancing the potential to not only influence national Antarctic agendas, but also the overall direction of ATCM policy. France's interest in, and development of a strong regulatory position on tourism regulation was influenced by Mr Michel Trinquier, in his role as Head of the French Delegation, and former Chairman of the Tourism Working Group. Similarly, Dr. Yves Frenot, has played an instrumental role in developing France's interest and expertise in key CEP issue areas – notably, NNS introduction and cumulative environmental impacts.

Netherlands, the US, Uruguay, and Ukraine. See, ATCM XXXIV-CEP XIV, "The Final Report," 57-59.

[85] Ibid, 32.

[86] Ibid, 33.

It can be suggested that France's potential misreading of the positions of other Parties on certain aspects related to tourism regulation inhibits or constrains the space necessary to engage in comprehensive discussions and debates on the relevant issues – ironically, the very type of action that France repeatedly calls for. Although tourism related papers submitted independently by France are generally thorough, legally robust, and detailed, the fact that many of the proposals included in these submissions have at times been ill-received by a large majority of the other Parties, is suggestive of some sort of misperception, or misunderstanding occurring at France's national administrative level. Nevertheless, while some French proposals have been met with concern or opposition within the ATCM, and have not received support from other Parties, many others (particularly proposals that France has developed and submitted in cooperation with other ATCPs) have been received positively, and have significantly contributed to the development of regulatory tourism policies.

France both participates in, and contributes to a wide variety of issues related to tourism activities. Working and information papers submitted by France (as well as those that it develops and submits in cooperation with other ATCPs to the ATCM and the CEP), cover topics such as: the management of human and environmental risks; review of tourism rules and regulations; site guidelines; and the establishment of areas of special tourist interest – a more detailed examination of France's role in relation to some of these issues is covered in the following section.[87] Given the topics on which France makes consistent submissions, and the nature of the proposals (including recommendations and resolutions) it puts forward, it is evident

[87] France, "Report on informal discussions."

that France continues to pursue a strong regulatory approach to tourism activities in the Antarctic Treaty Area.

French cooperation on Antarctic tourism

France increasingly pursues multilateral cooperation with a number of ATCPs in relation to tourism and non-governmental activities, and has taken a leadership role in developing site guidelines for visitors to Antarctica. In conjunction with Australia and New Zealand, France initiated an assessment study on this issue in May 2009 (now an ongoing initiative coordinated by New Zealand).[88] The study group aims to assess the long-term environmental impacts of tourism – a topic that has been identified as a priority work area by the CEP. France has also co-sponsored a proposal in relation to the CEP Study on the environmental impacts of tourism with Australia and New Zealand.

There is an increasing awareness amongst ATCPs that enhanced cooperation in regard to the issues associated with tourism, provides a strong foundation upon which to progress further concrete work in regard to regulations. To this end, processes involving the exchange of information and ongoing discussions at bilateral and multilateral levels between Parties within the Tourism Working Group, as well as in conjunction with the other ATCM Working Groups and the CEP, are considered to be extremely valuable. More broadly, but still within the scope of the ATCM, these channels of dialogue are also important to pursue intersessionally (often through ICGs, and at ATMEs). Another means of enhancing cooperative efforts advocated by France, involves increasing the number of substantive working papers on

[88] ATCM XXXIII-CEP XIII, "The Final Report," 10.

tourism submitted by Parties to the Tourism Working Group. In order to progress developments on priority issues, France encourages more Parties to submit a greater range of papers with 'enhanced factual and contextual content,' and a more thorough 'analysis of topical issues.'[89]

Adventure tourism in the Antarctic Treaty Area

Considered the last great frontier, Antarctica is now experiencing a new and emerging tourism phenomenon – adventure tourism. Consisting of more extreme activities, such as yachting, kayaking, and diving, as well as land based activities such as trekking, climbing and skiing, adventure tourism in the Antarctic Treaty Area raises pertinent concerns relating to safety, SAR procedures, and environmental protection. It also initiates a number of complex legal and administrative questions related to national responsibility and liability. France believes that adventure tourism 'warrants close examination' by ATCPs, and advocates the development of an enhanced understanding of the issue within the ATCM in order to identify which particular activities constitute the greatest risks and threats, and to 'prioritise discussions that could lead to regulatory mechanisms.'[90]

In recent years, France has gained first hand experience in dealing with issues related to adventure tourism. In January 2010, an incident involving the unauthorised presence of two French yachts (the *Esprit d'Equipe* and the *Eclipse*) within the Antarctic Treaty Area, resulted in damage caused to

[89] ATCM XXXIV-CEP XIV, "The Final Report," 66.
[90] The United States, France, Germany, Netherlands, New Zealand, "ATCM Review of Tourism Rules and Regulations," *WP 26*, ATCM XXXIV (Buenos Aires, 2011): 4.

Wordie House[91] – categorised as an Antarctic Historic Monument. This incident violated both the Madrid Protocol (as sites or monuments of recognised historic value are classified as Antarctic Specially Managed Areas (ASMAs) under Article 4 of Annex V), as well as applicable Site Guidelines. The incident has raised serious questions relating to authorisation procedures, and the capacity of nationals to enter the Treaty Area without logistical support from authorised organisations (such as national programs or tour operators), and also highlighted the need to ensure the protection of historic sites and monuments as stipulated under the Madrid Protocol.

Aiming to generate wider discussion on the emerging issue of adventure tourism in the Antarctic region (including the presence of nationals), France provided two working papers on this topic at both the Thirty-Third, and Thirty-Fourth ATCMs held in Punta del Este, Uruguay 2010, and Buenos Aires, Argentina in 2011.[92] The first paper (jointly submitted with the UK and Ukraine at ATCM XXXIII),[93] served to highlight the issue of protection of historic sites, compliance with the environmental principles of the Madrid Protocol, and the need to address issues related to authorisation of entry into the Antarctic Treaty Area. In this regard, France is keen to make improvements to the provision of information available to visitors to Antarctica in order to enhance compliance with regulations and existing legal measures relating to the protection of the environment, and historic sites and monuments.

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[91] Formerly British Base F, Wordie House is located in the south-west section of Winter Island on the Antarctic Peninsula. It was classified under Historic Sites and Monuments (HSM) Nº 62 in 1995.

[92] ATCM XXXIII-CEP XIII, "The Final Report," 22; France, "Follow up to the unauthorized presence of French yachts within the Treaty area and damage caused to the hut known as Wordie House – Observations on the consequences of the affair," *WP 11*, ATCM XXXIV (Buenos Aires, 2011).

[93] France, "Report of an incident at Wordie House (HSM Nº 62)," *WP 25*, ATCM XXXIII (Punta del Este, 2010).

France provided a follow up paper on the Wordie House incident at ATCM XXXIV in 2011, reporting on the legal and administrative steps that had been undertaken by the French Government on this matter in the intersessional period.[94] Following investigations led by the *Préfet* of the *TAAF*, it was ascertained that neither yacht had submitted a preliminary environmental impact assessment to French authorities, nor had they been granted national authorisation to enter the Antarctic Treaty Area – thereby infringing Article 8, and Annex I of the Madrid Protocol.

Under national law, France has the capacity to initiate legal action for violations relating to unauthorised activities in Antarctica on behalf of French nationals, which may result in administrative and criminal sanctions being taken against the perpetrators.[95] Under the French Environmental Code, such sanctions may result in imprisonment or financial penalty.[96] Although the skipper of the *Esprit d'Equipe* was issued with a warning, and the organiser of the expedition was prohibited from obtaining authorisation for entry into Antarctica for a period of five years, recent reports indicate that this yacht has been active again in Antarctica. As a result of these developments, France re-launched an inquiry, and continues to provide ATCPs with relevant information on the matter, including the nature of the legal action it has undertaken. In the event of an offence reoccurring, French law does provide for the application of more severe criminal sanctions.

Similarly, another incident involving the presence of an unauthorised Norwegian vessel (the *Berserk*) in Antarctic waters, has further drawn attention to the need for ATCPs (all of whom share the common threat of

[94] France, "Follow-up to the unauthorized presence of French yachts."
[95] ATCM XXXIV-CEP XIV, "The Final Report," 40.
[96] Articles L. 713-5 to L. 713-9 of the French Environmental Code.

potentially having to deal with similar incidents involving unauthorised nationals) to grant priority to addressing the serious implications of adventure tourism – including the capacity for Parties to take legal action.[97]

Aware that a lack of required national legislation to deal with these problems effectively is a common element amongst Parties, France continues to highlight the need of the ATCM to discuss and collaborate more extensively on this issue, in order to limit and avert potential maritime accidents, to enhance existing measures in this area, and to streamline coordinated responses. Questions relating to whose responsibility it is to respond to calls for assistance, who bears the financial costs of these rescues and emergency actions, and in the case of violations – how legal penalties are to be enacted, and under which laws of which states, are particularly pertinent. As pointed out by France, these are questions ATCPs are currently ill equipped to answer.

In order to limit the chances of similar incidents occurring in the future, France highlights the importance of addressing a number of key issues. Most notably, it has drawn the attention of Parties to the importance of evaluating and where necessary enhancing the strength of national laws, and re-examining, and where required modifying the information exchange processes through the Antarctic Electronic Information Exchange System (EIES).

On the topic of information exchange, France also continues to encourage Parties to enhance mechanisms (especially those relating to activity

[97] See, ASOC, "Follow-up to Vessel Incidents in Antarctic Waters," *IP 53*, ATCM XXXV (Hobart, 2012): 3; New Zealand, Norway, and United States, "The Berserk Incident, Ross Sea, February 2011," *IP 18*, ATCM XXXIV (Buenos Aires, 2011); and Norway, "The Legal Aspects of the Berserk Expedition," *IP 75,* ATCM XXXIV (Buenos Aires, 2011).

scheduling and notification processes) in accordance with Article 7 of the Antarctic Treaty, and Article 17 of the Madrid Protocol.[98] In particular, France draws attention to the need to limit situations where 'individuals seek to circumvent national legislation by seeking approval for their activities from more than one national authority.'[99] France's ongoing commitment to addressing these issues was demonstrated by its submission of a number of working papers on these topics at the most recent ATCM held in Hobart, Australia in 2012. For example, France's working paper on jurisdictional issues in the Antarctic Treaty Area provided the ATCM with a useful, consolidated overview of both the existing, as well as the potential challenges faced by ATCPs in regard to jurisdiction, and called upon Parties to initiate relevant discussion.[100]

At ATCM XXXV, France also suggested a number of key steps for the consideration of Parties in order to improve the EIES, particularly in relation to the need to address issues relating to jurisdiction. Most notable among these concerned improving systems surrounding evidence gathering (as under the French legal system, the provision of legally binding, rather than testimonial evidence is necessary for the trial of such cases in court); the provision of information on authorisation refusals (as well as potentially using the EIES as a means of informing Parties on the vessels that are authorised to enter the Treaty Area); and improving the provision of safety documentation by yachts to the port authorities of Parties.[101] While the

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[98] In addition, there is the Internal Database on Antarctic Tourism, that is funded through the International Centre for Antarctic Information and Research (ICAIR) – established by France, Italy, the Netherlands, New Zealand, and the UK. See, Richardson, "Regulating Tourism in the Antarctic," 80.

[99] Resolution 6 (2001), adopted at ATCM XXIV; France, "A mechanism for centralizing tourism," 3.

[100] France, "Jurisdiction in Antarctica," *WP 28*, ATCM XXXV (Hobart, 2012).

[101] France, "Improving the Functioning of the Electronic Information Exchange System (EIES) for Non-Governmental Activities in Antarctica," *WP 29*, ATCM XXXV (Hobart, 2012);

majority of Parties were in accord with France's draft Decision on the topic of jurisdictional issues in Antarctica, a number of Parties did not support the notion that use of the EIES by Parties should be mandatory. Following informal consultations and revisions, consensus was reached on this Decision, and was adopted by the ATCM.

France, tourism and the management of human and environmental risks in Antarctica

Given the exponential growth of tourism activities in Antarctica over the last decade, France strongly emphasises the importance of 'bringing to the forefront the need for the efficient management of personal safety and environmental protection.'[102] It's significant contribution to tourism regulation is complemented by the equal contributions it has made to other issues on the agendas of both the ATCM and the CEP that are implicated with tourism activities, but that also comprise separate issues in their own right.

The following section considers, environmental impacts and damage, the introduction of NNS, cumulative environmental impacts, human safety, and maritime SAR. France maintains that in light of the risks involved with the ongoing development of human activities in Antarctica (particularly those activities associated with tourism), Parties (particularly those with active tourism industries) must grant 'priority attention' to these associated issues – notably, the 'inherent risks' to both the environment, and human safety.[103] According to France, this should involve implementing a more global

[102] France, "Managing Human and Environmental Risks in Antarctica," *WP 33*, ATCM XXXI (Kyiv, 2008): 2.
[103] France, "Improving the Functioning of the Electronic Information Exchange System (EIES) for Non-Governmental Activities in Antarctica," *WP 29*, ATCM XXXV (Hobart, 2012).

approach, by building upon the 'step-by-step methodology' that has been traditionally applied by ATCPs in the past.[104]

(i) Environmental impacts and damage

According to France, 'the impact of tourism on the Antarctic environment has been one of the most important issues before the ATCM for a number of years.'[105] Although tourism activities are subject to EIA procedures, and some tourism regulations have been developed, concern over the level and extent of the environmental impacts of tourism remains significant amongst a number of Parties. Most notably, France states that 'if tourism is not adequately regulated in due course, it will develop even further and will result in major environmental damage before being put under control.'[106] France's approach to tourism management is quite dynamic – it is especially conscious of taking into account how the future needs of the environment can be achieved in conjunction with the development of tourism activities, and therefore pursues a long-term, and forward thinking strategic vision for the management of these activities. In this regard, France has consistently drawn into question the adequacy of the existing regulatory framework for tourism activities in Antarctica, and has urged the ATCM to consider new approaches to tourism policies.

Maintaining the view that tourist activities 'may be the cause of environmental damage in Antarctica and its dependent and associated ecosystems,' France has dedicated a significant effort to studying the issue of the environmental impacts associated with tourism and non–governmental

[104] Ibid.
[105] United States, France, Germany, Netherlands, and New Zealand, "ATCM Review of Tourism Rules and Regulations," 3.
[106] France, "Report of the Informal Intersessional Group."

activities, and has provided the ATCM with consistent thoroughly researched and in depth information on tourism related issues via the submission of working and information papers.[107] For example, drawing attention to the importance of considering environmental damage, France presented a paper on the environmental risks associated with tourism activities at the Thirty-First ATCM in Kyiv, Ukraine in 2008.

Despite the provisions currently in place to limit the impact of tourists on the Antarctic environment, increasing human activity poses major long-term environmental impacts in regard to the protection of the unique and fragile Antarctic environment. Environmental degradation, and the threat of damage to the natural vegetation and native animal populations are of particular concern at highly sensitive ecological sites. Tourist activity around the Antarctic Peninsula is already negatively impacting on the animals reproducing in that area, and resulting in the endangerment of certain species.[108] Additionally, due to the disposal of ballast from tourist vessels, there is an increase in the risk of marine pollution, which also has potentially devastating impacts upon marine and coastal biodiversity through the introduction of pests. These factors pose significant threats to the integrity of the entire Antarctic ecosystem. Recognising the fundamental role it has to play in this regard, the CEP categorised tourism and its associated environmental impacts as a high priority area in its Five-Year Work Plan in 2008.

At the Meeting of the CEP in 2009, France, Australia and New Zealand presented a co-authored working paper on the environmental impacts of

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[107] France, "Usefulness of an Annex VII," 2.
[108] Yves Frenot, "L'émergence d'un tourisme de masse en Antarctique," *Revue Pôle Nord-Sud*, 1 (2008).

tourism, highlighting the lack of 'detailed study of the environmental impacts of these activities, including by the CEP' up to this point.[109] Proposing a work program for CEP action on this issue area, the three Parties established an ICG that aimed to undertake a comprehensive assessment of the environmental aspects of tourism that same year. As convener of the ICG, France played a pivotal role in the discussions that took place between the twelve participating Parties and invited expert organisations,[110] and reported to the CEP on the outcomes of the session dedicated to 'Invasive and introduced species in polar environments' at the International Polar Year (IPY) Science Conference held in Oslo, Norway in June 2010.[111]

Since the first commercial Antarctic cruise vessels started visiting the continent in the 1950s, some two hundred disembarkation sites have been established – of these, fifty sites are the most frequently utilised by operators. The concentration of human activity at these sites places significant pressure on the environment, and has resulted in 'competition for space between the native fauna populations and the tourists.'[112] This can have severe consequences for endemic species populations during periods of reproduction and the raising of young – most notably, through the disturbance and destruction of habitats, and via the inadvertent introduction of bacteria and pathogens.

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[109] France, Australia, and New Zealand, "Environmental Aspects and Impacts of Tourism," 3.

[110] The ICG also included consultation with the Antarctic Southern Ocean Coalition (ASOC) and IAATO. ATCM XXXIII-CEP XIII, "The Final Report," 10; France, "Report on IPY Oslo Science Conference Session on Non-Native Species," *IP 32,* ATCM XXXIII (Punta del Este, 2010). A small workshop was held in New Zealand in December 2009 to review progress on the study. Work on this matter within the ICG forum continued throughout another intersessional period.

[111] Following this, the CEP examined the environmental impacts of tourism through a study group, with the Chair, and Vice Chairs of the Committee developing a draft project scope and management approaches in order to address the issue.

[112] Etienne, "Tourisme et environnement polaire," 88.

While the emergence of eco, or 'environmentally friendly' tourism has gone some way toward enhancing wider awareness of the need to 'tread carefully' and limit the impact of the human footprint in the region, France maintains that 'paradoxically,' tourism remains a 'veritable pressure on the fragile region of the sub-Antarctic and in particular, continental Antarctica which is the principal attraction of the region.'[113] As tourism numbers continue to rise, the lack of a long-term strategic direction for its regulation, indicates a 'major deficiency,' and requires ATCPs to 'become more proactive in anticipating trends,' rather than acting on a reactionary basis.[114]

Co-authoring a paper with Germany at the Thirty-First ATCM in 2008, France drew attention to the fact that 'although Parties recognize the necessity of sensibly administering and controlling tourism in the Antarctic,' an 'overall strategy for environmentally sound tourism' has not been established.[115] Believing this to be fundamental to ensuring the ongoing promotion of peaceful activities in the Antarctic Treaty Area,[116] France (with the support of Germany) strongly expressed its opposition to the installation of permanent land based tourism facilities in the Antarctic, and drafted a resolution suggesting a 'moratorium' against such developments until the ATCM has devised, and agreed upon a strategy for environmentally sound tourism.[117]

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[113] Ibid.
[114] France and Germany, "Environmentally sound tourism in the Antarctic Treaty Area," *WP 6*, ATCM XXXI (Kyiv, 2008): 3.
[115] Drawing attention to Resolution 5 (2007).
[116] ATCM XXXI-CEP XI, "The Final Report of the Thirty-first Antarctic Treaty Consultative Meeting (Kyiv, 2008): 52-53.
[117] Ibid.

Despite stating that 'one might thus consider that the presence of tourists is not welcome and that tourism should be banned South of the 60 degrees South latitude,' France, in qualifying its position, confirmed that prohibiting tourism altogether would represent 'an admission of relative powerlessness' on behalf of the ATCPs, as it would infer the incapacity of ATCPs to regulate adequately the only established commercial activity currently taking place in the Antarctic.[118] This factor (particularly for claimant States), could have the potential to draw into question issues relating to territorial sovereignty, and therefore be highly detrimental to their fundamental national interests.

(ii) The impacts of tourism activities on science

While science remains the predominant activity undertaken in the Antarctic and sub-Antarctic regions, it must increasingly share space with tourist activities.[119] The capacity to pursue scientific research comprises a key component of the Antarctic Treaty (under Article III). The continent is declared a 'natural reserve dedicated to peace and science' (under Article 2 of the Madrid Protocol. In light of this the capacity of ATCPs to uphold and fulfill these enshrined principles, constitutes a major concern.[120] Despite Parties lacking the 'legal competence' to address the issue of unregulated tourist activities at the time of the Treaty's establishment, Recommendation IV-27, stating that 'the effects of tourist activity may prejudice the conduct of scientific research, conservation of fauna and flora and the operation of

[118] France, "Usefulness of an Annex VII" 2.
[119] Machiel Lamers, "The Future of Tourism in Antarctica: Challenges for Sustainability," *PhD dissertation,* under the direction of Professor J.H. Stel (Universitaire Pers Maastricht, 2009): 11.
[120] Antarctic Treaty, Article 3, paragraph 1.

Antarctic stations,' was adopted at the Fourth ATCM held in Santiago, Chile in 1966.[121]

According to France, with tourism now constituting a major activity in Antarctica, it is 'essential to reconcile freedom of access to Antarctica, and freedom of scientific research and environmental protection.'[122] France is particularly concerned that commercial tourism activities have the potential to 'constrain' scientific work on the Antarctic continent, as well as the surrounding sub-Antarctic islands – particularly in relation to areas frequented by tourists that are also within the close vicinity of bases. France maintains that a reaffirmation of the principles of the Madrid Protocol is necessary to ensure that these activities 'do not disturb' scientific research.[123]

Due to the increasing number of tourists active at sites that are also utilised by scientists for research purposes, there is a clear conflict of interest between the touring companies visiting these sites, and scientists undertaking research in the same areas.[124] In a 2008 report, Dr. Yves Frenot, identified that intensive levels of tourist activity at such sites cannot remain unabated without potentially necessitating the abandonment of these sites by scientists due to severe environmental degradation.[125]

Concern also relates to the visitation of tourists to national bases and stations – a practice that is often 'disruptive' to the work of the scientists. This is particularly the case when numerous visits take place throughout the one

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[121] Guyer, "The Antarctic Treaty System," 213.
[122] France, "Establishment of "areas of special tourist interest,'" *WP 18*, ATCM XXIX (Edinburgh, 2006): 3.
[123] Ibid.
[124] Asia N. Wright, "Southern Exposure: Managing Sustainable Cruise Ship Tourism in Antarctica," *California Western International Law Journal,* 39 (2008): 64.
[125] Frenot, "L'émergence d'un tourisme de masse en Antarctique."

season, or without the prior notification to base staff. Nevertheless, while tourism is largely denounced by scientists as a general interference to their research programs, and as national research programs undertaken in the Antarctic increasingly require more expensive logistics and technology, it is evident that the revenue generated through Antarctic tourism activities is providing a financial resource pool to those Parties that have operating tourism industries.[126]

An additional concern relating to tourist visitations to stations concerns SAR processes, and the potential impact of these processes on the functioning of national programs, as the assistance of national Antarctic programs may be called upon in the event of an accident or emergency.[127] While the presence of personnel at bases may provide a level of security to tourists (in the instances where tourists may encounter difficulties, or have accidents nearby/in the vicinity to bases and sites at which scientists undertake research), this raises major questions of responsibility and liability. It also places an unfair burden on the scientific personnel based at these stations (whose priority it is to undertake research, and not render assistance to tourists should an incident or accident take place nearby). Furthermore, emergency and rescue operations may constitute an activity for which such personnel may not necessarily be trained, equipped for, or in a position to pursue at any given time.

Subsequently, there is an increased risk of disturbance not only to the environment, but also to the integrity of the work of the scientists pursuing research in areas frequented by tourists. With vastly different objectives (for tourists, sight seeing, and for researchers, undertaking research), it is

[126] Etienne, "Tourisme et environnement polaire – enjeux et persepctives," 89.
[127] France, "Establishment of 'areas of special tourist interest,'" 5.

inevitable that there will be impacts (or at the least some level of disturbance) on the conduction of these research activities. This conflict of interest is particularly prevalent throughout the austral summer, when tourists eager to observe seabirds, and marine mammals, arrive at the Antarctic Peninsula region in vast numbers – the same period during which scientists undertake studies on the breeding and reproductive habits of various species. The disturbance caused by the intrusion of tourists during what is an extremely important and vulnerable period to certain species is particularly concerning.

In response to this, France has highlighted the importance of identifying and defining 'areas of special tourist interest,' and submitted a working paper on the topic at the Twenty-Ninth ATCM in Edinburgh, the UK in 2006.[128] France proposed that in an attempt to 'control the presence of tourists,' and to 'limit possible interference,' it may be useful to 'direct' tour operators to specific sites that have been identified as attractive to tourists, or to set aside separate tourist sites altogether.[129] France has also suggested that consideration should be given to limiting the opening of new sites to tourists (particularly those sites that are infrequently visited). While a number of Parties recognsied the 'strategic value,' and 'broad ranging nature' of France's proposal, many Parties stated that establishing further rules was 'unnecessary,' and that the development of specific tourist sites could be 'regarded as exploitation rather than preservation.'[130]

[128] Ibid, 3.
[129] Ibid.
[130] ATCM XXIX, "The Final Report of the Twenty-Ninth Antarctic Treaty Consultative Meeting" (Edinburgh, 2006): 39.

(iii) Introduction of non-native species (NNS)

The risk of introduction of NNS (including pests and diseases) to the Antarctic environment is another serious issue associated with tourism. Measures to prevent the unintended introduction of NNS to the Antarctic region are provided for in Annex II of the Protocol.[131] NNS species (also referred to as alien, or invasive species) are those that have been introduced either intentionally, or unintentionally to an ecosystem. Introduction refers to both the movement, 'as a direct or indirect result of human activity of species into an area where they are not native,' and includes the 'movement of species' to biogeographic zones where 'such species are not naturally present.'[132] While there is a 'complete ban on the deliberate introduction of non-native species and diseases to the Antarctic Treaty Area,' unless in accordance with a permit as outlined in Annex II, Article 4 of the Madrid Protocol, the issue of the movement of NNS between sites in Antarctica is not covered explicitly.[133]

The issue of the introduction of NNS has been a topic on the agenda of the CEP since the first meeting of the Committee in 1998, and is accorded the highest priority in the CEP Five Year Work Plan. While ATCPs have taken some steps towards addressing this problem by developing certain provisions, the focus of these has been aimed generally at the intentional

[131] Australia and France, "Guidelines to minimise the risks of non-native species and disease associated with Antarctic hydroponics facilities," *WP 25,* ATCM XXXV-CEP XV (Hobart, 2012).
[132] Australia, France, and New Zealand, "A Work Program for CEP Action on Non-Native Species," *WP 5,* ATCM XXXII (Baltimore, 2009).
[133] Committee for Environmental Protection, *The CEP Handbook* (2011): 163, http://www.ats.aq/documents/atcm34/ww/atcm34_ww005_e.pdf.

introduction of NNS, while only limited consideration has been granted to unintentional introduction.[134]

Based upon the recommendations of the 2006 Workshop on Non-native species in the Antarctic, the CEP agreed that the topic of the introduction of NNS should be granted the 'highest priority consistent with the high environmental standards set out in the Protocol – a zero tolerance approach.'[135] Classifying the introduction of NNS as a priority one issue in the Five-Year Work Plan assisted the Committee in agreeing upon, and developing a coordinated program for future work on this issue.[136] Furthermore, the issues of 'quarantine and NNS' have been categorised as a separate CEP agenda item – highlighting the importance the Committee places on addressing the issue. Given the high probability for the introduction of NNS via tourist activities, comprehensive engagement between the Tourism Working Group and the CEP is fundamental.

The discovery of alien species such as spider crabs, types of algae, and the larvae of some invertebrate species around the Antarctic Peninsula, has provided scientists with evidence of NNS intrusions in Antarctic waters. Furthermore, it is likely that the capacity of NNS to establish 'self maintaining populations' will increase as ocean temperatures rise due to climate change in the future.[137] Dr. Frenot confirms that the 'traditional view of the Southern Ocean as an isolated system is now being challenged,'

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[134] Yves Frenot, "Biodiversity and non-native species in the Antarctic marine environment," *Report of the Joint CEP/SC-CAMLR Workshop* (Baltimore, 2009); France, New Zealand, Russian Federation, and United States, *WP 55,* ATCM XXXII (Baltimore, 2009): 9.
[135] ATCM XXIX-CEP IX, "The Final Report," paragraph 129.
[136] ATCM XXXI-CEP XI, "The Final Report," Appendix 1.
[137] Frenot, "Biodiversity and non-native species," 8.

adding that the introduction of NNS species 'may considerably alter marine biodiversity.'[138]

- France and cooperation on addressing the introduction of NNS

Most notable amongst France's contributions to this topic has been its work on the development of measures aimed at limiting NNS introduction and transition between sites. This has been identified as a priority one issue in the CEP five-year work plan, and a subject on which France has collaborated extensively with both Australia and New Zealand.[139]

Consistently maintaining a priority focus on the issue of the introduction of NNS in Antarctica, France's particular attention to this topic has been prompted by significant research interest in the environmental impacts of terrestrial and marine invasive species in the sub-Antarctic region. Consequently, France possesses a high level of expertise and practical experience in addressing the issue of the introduction of NNS. Continuing to build upon this expertise in recent years, France has demonstrated a particularly strong motivation to address this issue comprehensively in Antarctica – a focus, and direction that has been especially evident since the election of Dr. Frenot as Vice Chair of the CEP in 2003.[140]

France continues to occupy a leadership role on the topic of the introduction of NNS within CEP meetings. Submission of a high number of individual, as

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[138] Yves Frenot, "Biodiversity and non-native species in the Antarctic Marine environment."
[139] CEP, "Report of the Committee for Environmental Protection," The Twelfth Meeting of the Committee for Environmental Protection (Baltimore, 2009): 25; France, "Open-ended Intersessional Contact Group on Non-Native Species (NNS) Report 2009-2010," *WP 9*, ATCM XXXIII (Punta del Este, 2010); Australia and France, "Guidelines to minimise the risks of non-native species."
[140] Martin Riddle, personal communication (24 November 2011, Hobart).

well as co-authored working papers outlining relevant proposals and recommendations, provides evidence of France's substantial contribution of expertise and advice on the topic. France's participation via ICGs and collaborative workshops, has contributed to the development of a long-term and detailed work program on the introduction of NNS. Importantly, these forums facilitate the identification and prioritisation of key areas of common interest amongst Parties, and assist in determining the best mechanisms for harnessing wider international cooperation.

Intersessional collaboration is integral to the progress of work on the introduction of NNS, as it enables Parties to establish consistent approaches and policies, and develop long-term strategies by forecasting, and taking into account potential future challenges. For example, Regional Sensitivity to Climate Change (RiSCC) was a multilateral collaborative initiative established in 2000 by a group of scientists from, France, Australia, the UK, the Netherlands, and South Africa. Officially lasting five years, the initiative succeeded in pooling knowledge between Parties with a demonstrated interest and expertise in the introduction of NNS, and associated issues in the Antarctic.[141]

In recent years, France has undertaken extensive cooperation with Australia and New Zealand in relation to progressing the work of the CEP on this issue. Intending to develop a specific manual to assist Parties in preventing the unintended introduction of NNS, their cooperative efforts culminated in the submission of 'A Work Program for CEP Action on Non-Native Species, as a joint working paper at the Thirty-Second ATCM in Baltimore, the US in

[141] RiSCC was absorbed into a Scientific Committee on Antarctic Research (SCAR) program in 2005.

2009.[142] In developing a more detailed work program on this matter, their paper identified prevention; surveillance/monitoring; and response, as three principal components required for a more comprehensive approach to addressing the introduction of NNS.[143]

To facilitate work on this matter, the Committee established an ICG on NNS introduction for 2009-2010 at the Twelfth Meeting of the CEP. [144] As convener of the ICG, France presented a report on ICG outcomes in a working paper at ATCM XXXIII in 2010.[145] The Committee highlighted the valuable role played by France on this matter – particularly the contribution of Dr. Frenot.[146] Given that 'prevention is the most effective means of avoiding or minimizing the risk of NNS introduction,' France also reported on the work of the ICG in a joint paper with Australia and New Zealand, outlining the importance of establishing 'guiding principles,' and a quarantine manual for Parties.[147]

Based upon a proposal put forward by the UK at ATCM XXXIV in 2011, France suggested that the issue of NNS introduction could be added to a proposed checklist that assists in assessing land-based activities in Antarctica in relation to the provisions under the Madrid Protocol, as well as other Treaty instruments.[148] France continues to collaborate extensively with its key partners on the introduction of NNS. For example, at the most recent ATCM

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[142] Australia, France, and New Zealand, "A Work Program for CEP Action on Non-Native Species."
[143] Ibid, 4.
[144] The first meeting of the ICG took place between 9 July and 16 October 2009; the second between 16 November 2009 and 12 February 2010, and the third between 15 February and 5 March 2010. The ICG included the participation of twelve Parties, as well as SCAR, ASOC and IAATO as invited expert bodies, and provided both progress reports, and recommendations to the Committee at CEP meetings through working papers.
[145] France, "Open-ended intersessional Contact Group on "Non-Native Species" (NNS) 2009-2010 report."
[146] ATCM XXXIII-CEP XIII, "The Final Report," 34-35.
[147] France, "Open-ended Intersessional Contact Group on "Non-Native Species" (NNS)."
[148] ATCM XXXIV-CEP XIV, "The Final Report," 42.

XXXV held in Hobart in 2012, France presented a co-authored working paper with Australia, recommending the inclusion of guidelines in the CEP's NNS Species Manual relating to the use of hydroponics facilities.[149]

(iv) Cumulative environmental impacts

The ongoing development of tourism and non-governmental activities in the Treaty Area persistently raises the question of cumulative environmental impacts. A cumulative impact is defined as 'the impact of combined past, present and reasonably foreseeable activities [including activities that] may occur over time and space…[and can be] additive, interactive or synergistic.'[150] As a result, cumulative impacts are frequently one of the most difficult 'impact categories' to identify via the EIA process.[151] In attempting to identify cumulative impacts, it is vitally important to take into consideration 'both spacial and temporal aspects, and to identify other activities which have and could occur at the same site or within the same area.'[152] Cumulative impacts are of particular concern in regard to activities where the full extent of impacts, or potential for impacts is uncertain.

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[149] Australia and France, "Guidelines to minimize the risks of non-native species and disease."

[150] Committee for Environmental Protection, *The CEP Handbook* (2011): 259, http://www.ats.aq/documents/atcm34/ww/atcm34_ww005_e.pdf. See, IUCN, "Cumulative Environmental Impacts in Antarctica, Minimisation and Management," proceedings of the International Union for the Conservation of Nature (IUCN) Workshop on Cumulative Impacts in Antarctica (Washington DC, 18-21 September 1996): 3. See also, Bastmeijer, *The Antarctic Environmental*, 183; and J. Timothy Ensminger, Lance N. McCold, and J. Warren Webb, "Environmental Impact Assessment Under the National Environmental Protocol Act and the Protocol on Environmental Protection to the Antarctic Treaty," *Environmental Management*, 24:1 (1999): 13-23.

[151] SCAR, "Resolution 1 (1999) Guidelines for Environmental Impact Assessment in Antarctica," *SCAR Bulletin*, 136 (January 2000).

[152] Committee for Environmental Protection, *The CEP Handbook* (2011): 214, http://www.ats.aq/documents/atcm34/ww/atcm34_ww005_e.pdf.

As tourism activities increase, the issue of studying associated cumulative impacts has been raised within the forum of the CEP. The 'human footprint/wilderness management' issue is ranked as a level two priority area on the CEP's Five-Year Work Plan, and the CEP Handbook highlights the importance of considering the full extent and scope of human activities undertaken in the Antarctic Treaty Area. As a result, a precautionary approach is strongly advocated in order that associated or potential impacts may be assessed comprehensively. Under the Madrid Protocol, 'any activities undertaken in the Antarctic Treaty Area pursuant to scientific research programs, tourism, and all other government and non-governmental activities in the Antarctic Treaty Area for which advance notice is required under Article 7(5) of the Antarctic Treaty,' are subject to prior Environmental Impact Assessments (EIA).[153] Article 3 of the Madrid Protocol stipulates the undertaking of activities that allow for 'prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems,' and that take into account 'the cumulative impacts of the activity, both in isolation and in conjunction with other activities in the Antarctic Treaty Area.'[154]

Due to the high concentration of tourist activities around the Antarctic Peninsula (more than ninety-five percent), the area has been identified as particularly susceptible to cumulative environmental impacts.[155] Given the lack of research and data on the effects of these activities on landing sites, it is vital for ATCPs to gain a comprehensive understanding of the current level of sustainability of tourism activities, and the potential long-term impacts on the environment. This is particularly important in areas that are

[153] Madrid Protocol, Article 8, paragraph 2.
[154] Madrid Protocol, Article 3, paragraph 2.
[155] Lamers, "The Future of Tourism in Antarctica," 11.

identified as ecologically vulnerable, in order to avoid significant and irreversible damage to the fragile Antarctic environment.

- France and cooperation on addressing cumulative impacts

France demonstrates a concerted effort towards improving the assessment of cumulative environmental impacts in Antarctica – particularly in relation to the activities of tourism operators. Despite the fact that cumulative impacts are a reasonably new issue area on the agenda of the CEP, France has made a substantial contribution to the topic, and encourages ATCPs to continue progressing work on this matter. Article 8 of the Madrid Protocol states the necessity of considering not only the 'isolated effects of a given activity, but also their combination with the impact of other activities planned or underway.'[156] Nevertheless, France remains concerned by the fact that 'cumulative impacts are not always considered' fully when planning human activities in Antarctica – particularly commercial activities such as tourism.

Proposing the establishment of areas of special tourist interest in order to improve the evaluation of the impact of human activities on the environment, France has suggested that 'tourist interest areas' could also be turned into reference sites at which to undertake cumulative environmental impact studies. These studies would generate information on areas characterised by lack of knowledge that could then be applied to other areas as well.[157] A number of Parties (including France) call for a strong implementation of the precautionary approach, 'in the sense that where there are threats of serious or irreversible damage, lack of full scientific certainty

[156] France, "Establishment of 'areas of special tourist interest,'" 6.
[157] Ibid.

should not be used as a reason for postponing cost effective measures to prevent environmental degradation.'[158]

An increase in the volume of activity undertaken at any site in Antarctica (but particularly at those most frequented by tourists) is 'liable to have a significant environmental impact,' on individual sites, even if the impacts are minor or transitory.[159] Resolution 3 (2004) intended to address some of the major issues associated with cumulative impacts.[160] Building upon this, Resolution 5 (2007)[161] relates specifically to the long-term effects of tourism, and clearly outlines the desire of Parties to limit cumulative impacts by recommending that 'any tourism activities which may substantially contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems' be discouraged.[162]

In light of increasing tourism numbers (coupled with the diversification of tourism activities), the provision of accurate and comprehensive information regarding the nature and extent of activities undertaken at sites is critical.[163] In recognition of this, France advocates improvements to the systematic assessment of cumulative impacts within the context of EIAs. It is extremely difficult to ascertain accurately the full extent of potential cumulative environmental impacts over time (due to the fact that at any given site, there may be numerous operators visiting authorised sites from a variety of states). Nevertheless, while operators may be authorised by a state to visit a

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[158] United States, France, Germany, Netherlands, and New Zealand, "ATCM Review of Tourism Rules and Regulations," 4.
[159] Article 8, and Annex I of the Madrid Protocol.
[160] Resolution 3 (2004), adopted at ATCM XXVII.
[161] Resolution 5 (2007), adopted at ATCM XXX.
[162] Ibid.
[163] France, "A Mechanism for Centralizing Tourism and Non-governmental Activity Declarations and Authorization Requests Suitable for Taking Cumulative Impacts into Account," *WP 34,* ATCM XXXI (Kyiv, 2008): 2.

particular site (viewed on an individual basis, each operation may constitute only a minor or transitory impact), consideration must be given to the fact that there may be other authorised operations from other states visiting the exact same site.

Based upon its work on this issue, and in order to take better account of potential cumulative impacts, France has encouraged the establishment of a complementary mechanism to centralise tourism and non-governmental activity authorisation.[164] This would enable national authorities to examine all relevant authorisation data in real time in advance of the opening of each season. France presented a working paper on this topic at the ATCM XXXI in 2008. In response to France's proposal, a number of Parties raised questions of feasibility and practicality, and indicated that focus on the causes of cumulative impacts should retain a broader scope, rather than solely a focus on tourism activities.[165]

Reporting on the outcomes of the CEP Workshop on Antarctica's Future Environmental Challenges held in Edinburgh in June 2006, France submitted a working paper to the Ninth Meeting of the CEP in conjunction with Australia and the UK.[166] As a member of the Steering Committee of this Workshop, France played an integral role in identifying issue areas, prioritising goals, and developing an overall 'forward strategy' for the CEP in regard to some of the most pressing environmental concerns Antarctica faces over the next fifteen years. Major topics covered included internal factors – issues arising from human activities (such as increases in the

[164] ATCM XXXI-CEP XI, "The Final Report," 19.
[165] Ibid, 47.
[166] United Kingdom, France, Australia, "Antarctica's Future Environmental Challenges – A summary report of the CEP Workshop, Edinburgh, United Kingdom, 9-10 June 2006," *WP 42*, ATCM XXIX-CEP IX (Edinburgh, 2006): 2.

number of stations constructed, NNS introduction, and commercial activities such as tourism and bioprospecting); and also external factors – those occurring outside of Antarctica (such as climate change, pollution, and ozone depletion).[167]

(v) Safety, search and rescue, and associated legal implications

Increasing levels of human activity and vessel traffic within the Antarctic Treaty Area has significant implications for maritime safety, as well as the conduction of SAR operations. There has been a high awareness of the significant risks associated with undertaking activities in Antarctica since humans first started venturing to the polar regions centuries ago. A number of major maritime accidents have occurred in the Antarctic region since the signing of the Antarctic Treaty over fifty years ago. In 1978, an Air New Zealand DC 10 aircraft bound for Antarctica crashed on the slopes of Mount Erebus, resulting in the death of all 275 passengers on board.[168] Just over a decade later, the Argentine military vessel, *Bahia Paraiso,* carrying three hundred passengers (eighty of whom were tourists), ran aground en route to Palmer Station in 1989. While all passengers were rescued, the accident resulted in the spillage of over one thousand tons of crude oil, inflicting significant widespread environmental damage.

More recently, the cruise vessel *MS Explorer,* sank after hitting an iceberg in Antarctic waters in November 2007. After enduring three days in lifeboats, the 154 passengers and crew were rescued by a Norwegian cruise ship operating in the region, in cooperation with Chilean and Argentine naval

[167] Ibid.
[168] Strobel, "Le tourism en Antarctique," 172.

vessels.[169] In December 2010, a Norwegian flagged cruiser, *MS Fram*, experienced minor vessel damage after encountering a glacier, while *MV Polar Star* ran aground off the Antarctic Peninsula in late January 2011. Incidents such as these have intensified the significant attention being drawn to the risks of human safety in the Antarctic, as well as the inadequacy of existing SAR measures.

As maritime traffic continues to increase in the region (in particular, due to the expansion of commercial tourism operations, as well as activities undertaken by private individuals), including those undertaking adventure activities, the risk of potential accidents heightens substantially. Apart from the obvious human safety implications, in the first instance, this raises major issues related to liability – as the responsibility of passenger safety and rescue, rests with the tour companies, and there is no certainty that the national programs present in Antarctica would be in a position to intervene.

Within the broader international context, human safety and SAR are covered under several institutional mechanisms. The International Convention on Maritime Search and Rescue (SAR Convention) of 1979, established legal scope to a growing set of search and rescue principles at the international level.[170] Additionally, Article 98 of the United Nations Convention on the Law of the Sea (UNCLOS) outlines the principle of rendering assistance to vessels in distress. Maritime SAR systems are also subject to international accord under the auspices of the IMO – in this regard, the network of Search and Rescue Regions, and the corresponding Maritime Rescue Coordination

[169] MercoPress – South Atlantic News Agency, "Damaged Antarctic cruise takes refuge in Chilean base," (29 December 2007), http://en.mercopress.com/2007/12/29/damaged-antarctic-cruise-takes-refuge-in-chilean-base; B. Miller, "Ship accident highlights Antarctic tourism dangers," *ABC News Online* (26 November 2007), http://www.abc.net.au/news/2007-11-26/ship-accident-highlights-antarctic-tourism-dangers/969104.
[170] (1979) 1405 U.N.T.S. 97/U.K.T.S.

Centres (MRCCs) are particularly important. Despite this suite of international instruments, there has not been the development of an initiative that coordinates the respective activities of these mechanisms, nor has there been the establishment of 'appropriate rescue resources.'[171]

Improving the coordination of SAR operations in the Antarctic Treaty Area has been a topic on the ATCM agenda since the mid 1990s.[172] In light of concerns associated with the risks of humanitarian and maritime incidents occurring within the Antarctic Treaty Area, ATCPs have adopted a number of resolutions aimed at improving the overall coordination of maritime SAR within this area. Assistance in the instances of maritime emergencies has been encompassed within the established principles of the Antarctic Treaty since the adoption of Recommendation X-I (1961).[173]

Subsequent recommendations on the issue of maritime SAR have included those aimed at encouraging operators to consider steps to enhance contingency planning guidance for passenger vessels operating in areas remote from SAR facilities, and to report the location of their vessels on a regular basis to MRCCs.[174] Furthermore, the legal framework covering the conduction of all human activities in the Antarctic Treaty Area (including the provisions of Annex VI to the Madrid Protocol on Liability Arising From Environmental Emergencies)[175] provides the basis upon which ATCPs undertake action on safety and SAR issues. Additionally, Resolution 6 (2008),[176] and Resolution 6 (2010)[177] established several key recommendations

[171] France, "Managing Human and Environmental Risks in Antarctica," 3.
[172] ATCM XXXII-CEP XII, "The Final Report," 42.
[173] Recommendation X-I (1961), adopted at ATCM I.
[174] Resolution 6 (2008), adopted at ATCM XXXI – CEP XI (Kyiv, 2008).
[175] Adopted at ATCM XXVIII (Stockholm, 2005), Annex VI will enter into force once approved by all Consultative Parties.
[176] Resolution 6 (2008), adopted at ATCM XXXI.

aimed at improving the coordination and effectiveness of maritime SAR operations.

In its capacity as an expert advisory body to the ATCM, the Council of Managers of National Antarctic Programs (COMNAP) provides advice and recommendations to ATCPs on matters relating to safety, and SAR procedures in Antarctica. In order to examine maritime safety issues more comprehensively, COMNAP convened two workshops in 2008 and 2009.[178] Key outcomes have included recommendations aimed at enhancing communication between relevant international bodies and national programs, improving the effectiveness of information exchange processes (particularly in relation to the individual SAR resources and capabilities of Parties), and enhancing the reaction capabilities of Rescue Coordination Centers.[179]

SAR also comes within the scope of the CEP, as emergency response action and contingency planning is included on the CEP's Five-Year Work Plan as a level three priority issue. SAR is also included as an item on the agenda of the ATCM Legal and Institutional Working Group. Furthermore, the ATME on Management of Ship-borne Tourism in the Antarctic Treaty Area held in 2009, adopted a number of recommendations in relation to maritime SAR (most of which related to tourism activities).

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[177] Resolution 6 (2010), adopted at ATCM XXXIII.
[178] COMNAP, "Report of the Antarctic SAR Workshop I" (Valparaiso, Chile, 12-14 August 2008); and COMNAP, "Report of the Antarctic SAR Workshop II" (Buenos Aires, Argentina, 2-4 November 2009).
[179] COMNAP, "Towards Improved Search and Rescue Response in the Antarctic," *WP 47*, ATCM XXXII-CEP XII (Baltimore, 2009).

- France and maritime search and rescue in the Antarctic Treaty Area

France has made a significant contribution to the issue of human safety and SAR in the Antarctic region, and continues to engage cooperatively on this matter within the ATCM Operations Working Group, via ATMEs, and at specific workshops. France also supports the development of a mandatory Polar Code under the auspices of the IMO, in order to address the risks associated with shipping in the Arctic and Antarctic.[180] In light of the high number of incidents involving non-governmental activities that occurred throughout the 2001-2002 season, France put forward several suggestions aimed at addressing the potential risks associated with the rise in human activity in the Antarctic Treaty Area at ATCM XXV. For example, France noted the necessity of determining 'precisely the frequency and extent of the requests for assistance addressed to national programmes' through the forum of the informal discussion group.[181] This would include considering the causes and types of incidents, and the costs associated with rescue procedures. In this regard, France submitted a joint working paper in conjunction with New Zealand, Norway, and South Africa at ATCM XXVII in 2004, on matters relating to insurance cover costs related to SAR in the case of tourist and non-governmental activities.[182]

France has also taken a particularly active role on the issue of human risk management within the Treaty Area, submitting papers outlining proposals

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[180] John Kaltenstein, "The case for a strong Polar Code," *Friends of the Earth Report* (December 2011): 3. See also, France, "Proposal for inclusion of a chapter on environmental protection in the mandatory code," submitted to *IMO's Design and Equipment Sub-Committee* and reviewed as DE 55/12/13 and relevant technologies, www.maritimepassivesafety.com, (28 January 2011).

[181] France, "Report of the Informal Intersessional Group on Tourism Activities," 3.

[182] France, New Zealand, Norway, and South Africa, "Insurance cover for the costs of search and rescue, medical care and evacuation from Antarctica in the case of tourist and other non-governmental activities," *WP 46*, ATCM XXVII (Cape Town, 2004).

relating to contingency planning and emergency response, and calling for the formalisation of basic principles of maritime assistance. France believes that improving the accumulation and organisation of more detailed information on incidents would enable a better assessment of what exact legal and administrative mechanisms require strengthening.

- *Environmental damage arising from maritime incidents*

Consequences arising from maritime accidents involve not only risks to potential human safety, but also significant threats to the integrity of the pristine Antarctic environment. The 1989 *Bahai Paraiso* accident, is a notable case in point.[183] More recently, the shipwreck of a Norwegian vessel near Deception Island in January 2007, resulted in the spillage of several hundred litres of fuel into the ocean.[184] France continues to express concern over the fact that although the Antarctic Treaty does provide some general provisions that enable the organisation of an emergency response effort, there is a lack of binding provisions for such cases in the situations where the vessel in distress cannot respond to the emergency on its own.

Prompted by concern over recent incidents involving vessels in the Antarctic Treaty Area, ATCPs adopted Resolution 4 (2007) on ship-based tourism in the Antarctic Treaty Area at ATCM XXX in New Delhi, India in 2007. This recommended to Parties that, consistent with their national laws, limitations be set on the number of tourists per vessel, including restrictions on the number of tourists allowed to disembark at the same time.[185] Furthermore,

[183] An Argentine cargo ship, the *Bahia Paraiso,* ran aground off the Antarctic Peninsula in January 1989, resulting in the spill of some 600 000 litres of diesel fuel.
[184] Strobel, "Le tourism en Antarctique," 173.
[185] Resolution 4 (2007) limits the number of passengers per boat to five hundred, and the number of tourists permitted to disembark at the same time to one hundred.

Annex VI relating to Antarctic operators, including governmental as well as non-governmental persons undertaking activities within the Antarctic Treaty Area was ratified in 2007.[186] Not yet in force, Measure 15 (2009) relating to the landing of persons from passenger vessels in the Antarctic Treaty Area, intends to reinforce the provisions outlined in Resolution 4.[187]

In regard to human accidents or injuries occurring as a result of land based activities, Resolution I-X (1961) refers to the principle of the provision of assistance in emergencies – whereby expeditions 'render all possible assistance in the event of a request for emergency help.'[188] Land based rescue operations are dependent upon the availability of resources, and are 'executed on the principle of solidarity among operators who are located on the continent.'[189]

France has noted that aside from Resolution I-X (which is very general in scope), there is no overarching mechanism for SAR activities in the event of a human emergency,[190] and has expressed concern that there is no mechanism dedicated to the coordination of SAR services for either incidents that occur at stations, or those that take place during expeditions. In this regard, France has made a number of recommendations – including, the centralisation and circulation of applicable emergency information amongst Parties, extending the jurisdictional scope of relevant institutions such as the MRCCs, and the establishment of ad hoc emergency alert mechanisms.

[186] Madrid Protocol, Annex VI, Articles 2 and 3.
[187] Measure 15 (2009) – ATCM XXX-CEP XII, currently still being approved by Parties.
[188] Resolution I-X (1961), adopted at ATCM I.
[189] France, "Managing Human and Environmental Risks in Antarctica," 5.
[190] Ibid, 3.

- Environmental damage arising from adventure tourism

The recent phenomenon of adventure tourism involves new modes of transportation and human activity both to and on the Antarctic continent (including privately chartered yachts, boats, and even kayaks). These expeditions are not necessarily linked to any official tour companies. Furthermore, tourists are also diversifying their range of activities in the region – for example, no longer content with sight seeing and bird watching, tourists and private expeditioners are embarking on more extreme activities such as trekking, kayaking, diving, and skiing, in greater numbers than ever before. As transport logistics and technology continue to advance, the capacity for visitors to Antarctica to pursue these types of activities increases. This heightens the potential for both maritime and terrestrial accidents, as well as damage to the Antarctic environment. Consequently, there are significant legal issues involved – notably, those relating to responsibility for human safety and SAR procedures, and liability for damage.[191]

In relation to SAR in the Antarctic Treaty Area, France actively encourages 'collaboration amongst Parties and with the [Antarctic Treaty] Secretariat' as a means of limiting environmental impacts, preventing damage to historic sites and monuments, ensuring the safety of visitors to the region, and enhancing SAR procedures. France has made a considerable contribution to the debate on risk management aimed at improving maritime SAR mechanisms – particularly in relation to contingency planning, and emergency response coordination for both maritime, and land based incidents within the Antarctic Treaty Area. For example, France presented a working paper on this topic at the ATME on ship-borne tourism in 2009,

[191] Ibid.

examining existing mechanisms, and outlining potential amendments that could improve overall SAR procedural coherency.[192]

In regard to contingency and emergency response matters, a number of working papers concerning both terrestrial, as well as maritime activities, have been submitted by France in recent years. Adopting a 'prevention, prediction and intervention' approach, French proposals have included listing past accident sites, the establishment of an alert and alarm procedure, and defining emergency response plans.[193] France has also strongly advocated, and participated in intersessional work that has intended to progress these matters.

According to France, while maritime traffic continues to increase in the Antarctic Treaty Area, new measures will need to be adopted in order to adequately address the risks associated with these activities. Consequently, it continues to encourage ATCPs to pursue efforts in this regard, and proposed a resolution aimed at improving coordination of maritime SAR at the Thirty-Third ATCM in 2010.[194] France perceives that many of the risks associated with human activity in Antarctica most often result from 'breaches of the [Antarctic] Treaty, Protocol, and ATCM recommendations.'[195] In light of this, at the most recent ATCM held in Hobart in 2012, it submitted a working paper proposing that improvements be made to the functioning of the Electronic Information Exchange System (EIES), to ensure that Parties are provided with up to date and complete information.

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[192] ATME on the Management of Ship-borne Tourism in the Antarctic Treaty Area, "The Chair's Report," 15-16.
[193] France, "Contingency Planning and Emergency Response," *WP 17*, ATCM XXIX (Edinburgh, 2006): 3-5.
[194] France, "Improving the coordination of maritime search and rescue in the Antarctic Treaty Area," *WP 46*, ATCM XXXIII (Punta del Este, 2010): 5.
[195] France, "Improving the Functioning of the Electronic Exchange System (EIES)," 3.

Conclusion

The regulation of tourism and non-governmental activities in Antarctica – a geographical area managed by an international Treaty that makes no specific mention of such activities, raises a number of legal challenges and political concerns – particularly in relation to sovereignty, environmental impacts, human safety, and SAR. Despite the establishment of some regulations intending to limit tourist activities at sites in Antarctica, and contrary to the opinions of a number of other Parties, in France's view, the legal capacity of the ATCPs to control them adequately is severely lacking.[196]

France consistently encourages enhanced coordination and coherency concerning the regulation of tourism activities amongst ATCPs, and emphasises the need to undertake 'systematic consideration' of the adequacy of existing measures from an environmental protection point of view. This is particularly important in light of the issue of climate change – a process that has the potential to impact upon the areas accessible to tourism operators.[197] Reinforcing the concept that rules regarding environmental protection under the Protocol could benefit from strengthening, France proposed the development of a separate annex to the Antarctic Treaty dedicated to tourism activities. France also stresses the importance of stepping up comprehensive scientific analysis, in order to identify and mitigate both existing and potential future threats to the environment as a result of increasing human activity within the Antarctic Treaty Area.

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[196] This is in contrast to the view of a number of other ATCPs (notably, Argentina, Australia, and the UK), who maintain that the scope of the Madrid Protocol and its associated Annexes is the most appropriate framework for the regulation of tourism activities in Antarctica.
[197] United States, France, Germany, Netherlands, and New Zealand, "ATCM Review of Tourism Rules and Regulations," *WP 26*, ATCM XXXIV (Buenos Aires, 2011): 4.

Over the last decade in particular, France has strengthened its engagement in both the ATCM and the CEP, and has cooperated with a number of Parties over a variety of issues. Within the context of the Tourism Working Group, France expresses 'deep concern' that ATCPs have failed to engage fully in 'substantive debate' on the key issues related to Antarctic tourism over the last decade,[198] and continues to encourage the development of a more integrated, and 'long term perspective.'[199] France places a high priority on considering other issues implicated with tourism activities – most notably, environmental and human risk factors, such as marine pollution, the introduction of NNS, cumulative impacts, as well as SAR (including both ship-borne and land-based tourism activities), impacts upon scientific research, and liability for damage.[200] For France, sustained, in depth discussions on these topics assists in determining the issues that require special consideration, or the development of additional regulations, that may include 'new binding and enforceable regulatory mechanisms.'[201]

To achieve this, France highlights the need to firstly, determine common 'areas of need and interest' among ATCPs; and secondly, to identify key policy objectives in advance of considering the appropriateness of specific legal instruments.[202] At the Thirty-Third ATCM in 2010, France proposed amendments to the rules of procedure governing the participation of experts in the meetings of ATCM bodies. This wider cooperation would enable relevant experts (including those not belonging to international organisations with a scientific or technical interest in Antarctica) to attend and participate in Meetings, and to have their comments or recommendations reflected in

[198] Ibid.
[199] Ibid.
[200] ATCM XXXIV-CEP XIV, "The Final Report," 31.
[201] United States, France, Germany, Netherlands, New Zealand, "ATCM Review of Tourism Rules," 4.
[202] Ibid.

the Final Report of the Meeting.[203] While France's proposal received initial support, subsequent informal consultations undertaken by France, indicated that a consensual text could not be agreed upon between Parties.[204]

While France has consistently pursued a strong and consistent work agenda in the CEP, and demonstrated a strong capacity for both cooperation and leadership on various matters within this forum, the nature of France's engagement in the ATCM has at times been characterised as inconsistent, lacking practicality, and somewhat isolationist on certain issues. In this regard, there appears to be a separation between how France behaves and participates in the ATCM, and how it operates in the CEP. Efforts to better inform other Parties of their policy positions prior to ATCMs, and a reexamination of France's strategic approaches (particularly in the submission of papers), may improve it's capacity to harness the cooperation of other Parties more fully, thereby facilitating consensus, and enhancing the potential to make overall concrete progression on key issue areas.

[203] France, "Rules Governing the Participation of Experts in Meetings of ATCM Bodies," *WP 45,* ATCM XXXIII (Punta del Este, 2010).
[204] ATCM XXXIII-CEP XIII, "The Final Report," 28-29.

Part III

Analysis and Conclusion

7. Case Study Analysis

'There is never a substitute for the careful analysis of actual situations.'[1]

This Chapter considers the nature and extent of France's multilevel cooperation within the ATS, based upon the analysis of empirical case studies presented in the three preceding chapters. The case study data is assessed against the key analytical criteria that have been identified, defined, and explained in Chapter One. To reiterate, these criteria are:

- Interests
- Incentives
- Interactions
- Institutionalisation

This method of assessment assists in addressing the two main research questions put forward in this study – first, to identify and explain the main factors motivating French cooperation in the Antarctic, and second, to identify and analyse the principal strategies France employs in attempting to achieve cooperative outcomes within the ATS.

A mixed method approach has been utilised, involving an in depth analysis of documents and primary French language sources, together with a small number of key informant interviews in France with French scientists, academics, legal experts, government officials and politicians.[2]

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[1] Robert Keohane and Joseph Nye, *Power and Interdependence* (New York: Longman Publishing), 4.

[2] I was also fortunate to meet and speak with former French Prime Minister, Michel Rocard, at the twentieth anniversary of the Madrid Protocol in Hobart in 2011.

While this Chapter brings together the relevant empirical data from all three studies simultaneously, in order to ascertain the individual, as well as the overlapping effects of each of the analytical criteria upon international cooperation, each criterion is considered separately. Nevertheless, given the degree of overlap and complementarity between them, some elements of the criteria are considered together. Consequently, as each criterion is addressed, the two bilateral case studies are analysed (but not necessarily compared) first individually, and then together, before examination is turned to the multilateral case study.

Interests

The first of the four analytical criteria employed in this study, *interests,* intends to provide general insights into the main factors that motivate, and drive France's decision to engage in both bilateral and multilateral cooperation within the ATS. In considering Young's propositions regarding the different categories (types) of interests, it is clear that *interests* (as a criterion for analysis) is present in all three cases, and represents a fundamentally important element in initiating, as well as maintaining and facilitating the occurrence of cooperative patterns of French political behaviour within the ATS.

(i) France's interests at the bilateral level

France's capacity to identify and act upon key interests as a means of national goal attainment is especially evident in the two bilateral cases. While *interests* is also a conclusively present, and important explanatory factor in terms of providing incentives to cooperate in the case study describing France's multilateral engagement in the ATS, the exact nature of

France's interests concerning incentives for cooperation is more difficult to identify definitively, and is therefore also more complex to explain. It is important to note, that in ranking categories of interests throughout this analysis, the results are based on the empirical data described in the case studies only. Interest based priorities may overlap, evolve, and change over time, depending upon a variety of both endogenous and exogenous factors. Consequently, the ranking of categories of interests provides a basic, but incomplete picture of the patterns of French Antarctic interests at the bilateral and multilateral level throughout the last decade. It is therefore intended to serve as a non-definitive guide (or general indication of the level, priority, and nature of France's interests) on which to base the remainder of the analysis subject to the other criteria employed in the broader study.

In the case of France's bilateral agreement with Italy and the establishment of Concordia Station, the existence of strong common interests are clearly evident – most notable among these are political, economic, and scientific interests. In the first instance, France's desire to consolidate the permanency of its national Antarctic presence by establishing a second station, Concordia, provided a strong incentive to cooperate with Italy. The establishment of a permanent station at the heart of the continent provides a clear reinstatement of France's Antarctic presence, status, and longstanding influence in the region. Although Concordia Station is located outside France's territory, and within the Australian Antarctic Territory, the Station nonetheless reinforces the permanency of France's Antarctic interests and agenda, and highlights its intention to remain highly engaged in Antarctic affairs into the future.

The protection of key economic interests constitutes another fundamental factor in both bilateral cases. From an economic perspective, it is logical for France to conclude cooperative bilateral partnerships with participants with

whom it identifies common interests. For example, a major factor that contributed to France's decision to establish Concordia as a joint station with Italy was the desire to reduce the logistical costs associated with the construction and operation of a remote Antarctic station.

Collective scientific interests also provided a key incentive for France to pursue bilateral cooperation with Italy. Establishing an interior station facilitates France's capacity to pursue new and emerging fields of research, and also enhances its role within the international Antarctic science community. It is important to note that with science considered the 'currency of influence' in the Antarctic political arena, international scientific credibility is implicated highly with political power and influence within the ATS.[3] The intention to undertake research in scientific disciplines of mutual interest (such as geophysics and astronomy), and sharing a common desire to reinforce Europe's presence in emerging fields of Antarctic science, provided additional incentives to pursue cooperation with a European partner.

All categories of interests are evident in the French-Australian case study. In establishing a bilateral agreement with Australia, France recognised that many of its key interests could be achieved. As with the French-Italian case, political and economic interests tend to remain at the fore. Most prominent among these have been political and geostrategic interests – the need to ensure the protection of territorial sovereignty in its exclusive economic zone (EEZ) constituted the main driver for French cooperation with Australia. Not only was it critically important for France to protect valuable fisheries

[3] Richard A. Herr, and Robert H. Hall, "Science as Currency and the Currency of Science," in *Antarctica: Policies and Policy Development*, ed. John Handmer, 13-23 (Canberra: Centre for Resources and Environmental Studies, Australian National University, 1989).

resources from IUU fishing, it was also considered important in maintaining political credibility within CCAMLR, as well as more widely within the ATCM forum. These represented key political interests shared by both Parties, and provided a significant incentive to cooperate.

The identification of common economic interests was also central to France's decision to cooperate with Australia. Both Parties faced the same existing and potential economic costs (due to the loss of fishery resource revenue) if IUU fishing remained unaddressed in their EEZs. France recognised that cooperation would contribute to relieving each Party of the financial burden of undertaking activities individually, significantly reduce overall expenditure, and enable surveillance and enforcement tasks to be undertaken more efficiently, and effectively.

It was clear to both Parties, that given the exceptionally high financial cost of tackling IUU fishing in their respective EEZs (including not only the cost of surveillance and enforcement operations, but also the cost of undertaking necessary fish stock assessments, and other relevant scientific research work), cooperation would be of significant mutual benefit. Furthermore, the resultant reduction of logistics and infrastructure costs, would free up financial resources for the implementation of scientific programs. By sharing and pooling resources in this way, France and Australia have a greater capacity to pursue cooperative initiatives that enable them to achieve their key national interests.

Environmental and scientific interests have also played a major role in driving France's cooperation with Australia. The French-Australian Agreements led to actions that resulted in not only successfully eliminating IUU fishing within their EEZs, but also enabled the protection of the

Kerguelen Plateau (an important biological and ecological zone that was in serious peril due to the high level of IUU fishing practices in this area). France's desire to formally institutionalise the protection and management of its EEZ around Kerguelen and Crozet Islands (including the Kerguelen Plateau maritime area) by cooperating with Australia, clearly demonstrates France's prioritisation of both environmental and scientific interests.

Scientific research comprises the main activity undertaken in Antarctica, and also occupies a significant portion of national agendas in the sub-Antarctic regions. It is therefore logical that France and Australia (particularly in their role as claimants) share a strong interest in, and commitment to undertaking cooperative scientific endeavours in the region. Although scientific considerations were not the primary reason for establishing a formalised bilateral arrangement with Australia, the highly successful nature of the Agreement facilitated the evolution of significant bilateral cooperation in regard to scientific research. This now constitutes a major ongoing channel of bilateral cooperation between France and Australia, and importantly, has expanded to include wider cooperation with other ATCPs. Cooperative arrangements enhance both nations' international scientific standing and credibility, strengthen their presence in the region, as well as contribute to their ability to achieve other international objectives and commitments, both within and outside the ATS.

In both bilateral cases (France-Italy, and France-Australia), science has proven to be a critically important common interest that has enabled all involved Parties to realise key scientific interests more fully. In turn, this has enhanced the capacity of France and its bilateral partners to achieve other prominent national interests – such as the reaffirmation of sovereignty and regional presence, and the protection of vital economic interests. It has also facilitated

and consolidated their contribution to global environmental issues.

In turning to environmental interests, it is first important to note that due to the interdependent nature of many contemporary global environmental issues, there are increasing areas of complementarity and overlap across, and between scientific and environmental factors. This is especially the case in the Antarctic – a region dedicated to not only international scientific research cooperation, but also a region at the forefront of global environmental change. As a result, there is greater complexity involved in attempting to separate and consider France's scientific and environmental interests individually.

France's high level of involvement, and leadership role in international scientific cooperative projects at Concordia Station, has significantly contributed to knowledge on contemporary environmental issues such as climate change. This is vitally important in undertaking effective decision-making, and developing policies in relation to climate change mitigation within the current international political arena. Environmental interests have not only provided France with a major impetus to pursue formalised bilateral cooperation with Italy, but also Australia. France's strong interest in the ecological management of fisheries resources in the Southern Ocean, and the nature of the two bilateral Agreements concluded with Australia, provide a prominent example of a domain in which these interests are clearly evident.[4]

From the data available, a more clearly evident and stronger intersection of all categories of interests is present in the French-Australian case, than in the French-Italian case. The bilateral agreement with Italy was developed

[4] C.A. Colliard, "La gestion internationale des ressources de la mer," *Actualités du Droit de la Mer* (Paris: Pedone, 1973): 199-229.

primarily on the basis of scientific interests. While the decision to do so was ultimately motivated by a political agenda, factors such as the need to reduce economic costs, and the existence of clear environmental considerations, were also highly interconnected with scientific interests. Consequently, a tapestry of mutual interests heightened France's awareness of the value of establishing a formal bilateral partnership with Italy.

The French-Australian partnership demonstrates the coming into play of all categories of interests at a priority level. While the Agreement is founded foremost upon political, as well as economic interests, the pursuit of both environmental and scientific interests has also been an essential component in initiating and maintaining cooperation. In this case, interests are not only similar or overlapping, but in some instances, close to identical in terms of the concurrence of the goals of the Parties – for example, the need to address IUU fishing, as well as maintaining a mutual recognition that science legitimises the presence of states on the continent – a particularly important element for claimants whose territory is internationally contested.

The success of these two bilateral partnerships clearly demonstrates the strength of France's overall cooperative engagement at the bilateral level. In this regard, *interests* – considered as the goals of actors, can be seen to provide powerful incentives to cooperate bilaterally. In formalising separate cooperative agreements with Italy and with Australia, France intended to fulfil several key objectives aimed at enhancing its principle interests in the Antarctic and Southern Ocean region.

In considering France's participation within the ATCM, the CEP and CCAMLR, it is evident that a variety of categories of interest play a pivotal role in driving, and determining the nature of France's cooperative

behaviour at a multilateral level within the ATS. It is important to note that France's primary interests within the ATCM are distinct from those that it pursues in the CEP. Furthermore, it is more challenging and complex to identify and explain definitively the trends and patterns of interests France pursues in the ATCM than it is in considering its engagement within the CEP.

- France's interests at the multilateral level

Within the forum of the ATCM, political interests are very much at the fore of French decision-making and policy development, and constitute major determinants of its cooperative behaviour at the multilateral level. Secondary to this are economic interests, followed by scientific and environmental interests.

While France has always maintained a consistently high level of cooperative engagement within the CEP, its political presence, and level of cooperative participation within the ATCM may be traditionally perceived as more limited. To an extent, this trend has been significantly altered since the early 1990s, as over the last decade in particular, France's political engagement within the ATCM has experienced significant reinvigoration, resulting in France becoming more active (although not necessarily more cooperatively engaged) on a wider range of issues. A key area of interest – for example, tourism regulation, has provided a major driver for France's enhanced engagement.

As has been demonstrated in the previous chapter, Antarctic tourism is an interest area on which France places significant emphasis and pursues specific policies. In a sense, tourism can be perceived as a 'geopolitical stake,'

or at the least a 'geopolitical factor.'[5] While approving the legitimacy of tourist activities serves the political interests of claimants such as France by enhancing the legitimacy of its territorial sovereignty, the maintenance of a strong regulatory stance on all tourism activities, and pursuing policies in this regard within the ATCM, also enables France to reaffirm its sovereign rights and political influence.

While economic interests certainly remain an important factor in motivating French cooperation within the ATCM, they remain more clearly identifiable interests at the bilateral level than at the multilateral level. Although France's decision to propose a landing tax for visitors arriving at Adelie land could be perceived as a direct pursuit of economic interests, it can also be considered an expression of France's desire to exert territorial sovereignty, rather than purely an attempt to gain revenue. This is most likely the case, given that while the imposition of a tax would be a regulatory measure implemented by France, it may also be perceived to legitimise France's acceptance of tourist activities. Considering France's strong regulatory position on tourism activities, it is unlikely that France would implement a measure that could result in it being perceived to be financially benefiting from an activity it seeks to limit.

In considering tourism and SAR as two key issues France pursues in the ATCM, it is clear that its emphasis on economic interests focuses on the reduction of expenditure, and enhancing efficiency in order to achieve collective outcomes. Given that cost sharing (for example, logistics cooperation) is more challenging to achieve at the multilateral level, France (like an increasing number of the ATCPs) remains largely restricted in its

[5] Mathias Strobel and Frank Tetart, "Le tourism en Antarctique: un enjeu géopolitique," *Hérodote,* 127 (Paris: La Découverte, 2007): 7.

capacity to develop cooperative mechanisms aimed at cost sharing at the multilateral level.

Enshrined as one of the pivotal *raisons d'être* of the Antarctic Treaty, science occupies a predominant role in initiating cooperation between France and other Parties at the multilateral level. While this is clearly more evident in regard to its behaviour within the CEP, scientific interests also inevitably infuse the largely politicised arena of the ATCM. It is important to note at this juncture, that the presence of both scientific, as well as environmental interests within the ATCM, is not only fundamentally important in terms of achieving the key principles of the Treaty and ensuring the provision of environmental protection, but also critical in enabling France (as well as other Parties) to employ these interests to achieve political goals.

Inserting, or allowing scientific and environmental interests to enter the ATCM arena, provides France with a valuable policy tool that grants it some degree of leverage in terms of its capacity to achieve its overall Antarctic agenda. For example, while France argues for stricter regulations on tourism activities from both an environmental and scientific point of view, it also recognises that prohibiting tourism activities altogether would not be in its political interest, as most notably, it would potentially weaken its claim to territorial sovereignty. In considering how political interests within the ATCM provides a driver for French cooperation, Scott notes that as a measure of national interest, tourism has the 'potential to reinforce' territorial claims in the Antarctic, as claimants have the capacity to use tourism, and the

control of tourist related activities, as a means to 'support' their sovereign rights on the continent.[6]

The significance France places on Antarctic environmental protection is clear at the multilateral level. While this is most evident within the CEP, it is also identifiable within the ATCM. For example, the fact that France automatically subjects all tourism and non-governmental related activities to authorisation requests, clearly underlines the emphasis it places on upholding the wider environmental interests of the Antarctic. France's position on tourism indicates that while political and economic interests are clearly important, they are not the only major determining factors in shaping its behaviour in regard to this issue within the ATCM. France is also highly motivated by strong environmental and scientific interests, and develops its agenda, policies and mode of cooperative interaction in accordance with all of these factors.

In recent decades, France has displayed an increasing tendency to place national interests aside in order to ensure that the wider values of Antarctica are achieved and upheld within the forum of the ATCM. France places significant emphasis on ensuring that decision-making pertaining to the management of all human activities in Antarctica remains in accordance with both the Antarctic Treaty, and the Madrid Protocol. Its commitment to environmental protection has also involved the strengthening of its domestic environmental legislation and regulatory provisions over recent years. This action has gone above and beyond France's requirements under the Antarctic Treaty and the Madrid Protocol, and provides a clear demonstration of its strong dedication to pursuing environmental interests within the ATCM.

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[6] Shirley V. Scott, "How Cautious is Precautious? Antarctic Tourism and the Precautionary Principle," *International Comparative Law Quarterly*, 50.4 (2001): 970.

France maintains a high level of distinct interests within the CEP – notably in relation to NNS introduction, and cumulative impacts. Its interest in, and commitment to environmental issues and scientific research within the CEP has contributed to driving France's political re-engagement within the ATCM in recent years. Nevertheless, these interests play a far greater role in influencing and shaping the level and nature of France's cooperative engagement within the CEP, than in the ATCM.

As a forum for the exchange of scientific knowledge, data and expertise, the CEP provides a more neutralised political context than the ATCM. Consequently, France is better able to put political and economic interests aside, in favour of prioritising, and focussing attention on environmental and scientific ones. France places significant emphasis on pursuing cooperative arrangements multilaterally within the CEP – particularly in relation to issues in which it shares fundamental interests with other Parties. For example, France has undertaken extensive cooperation with Australia and New Zealand on the issue of NNS introduction, based on the fact that these Parties all share a strong interest in, and expertise on, this high priority issue.

France's ability and willingness to shelve national interests in some circumstances, also facilitates the achievement of collective environmental protection goals with other Parties. This is particularly evident in examining France's behaviour within the CEP, where its interaction appears to be more coherent, consistently coordinated, and outwardly cooperative than within the ATCM. To some extent, this is likely due to the fact that as category of interests, science can be considered less ambiguous, or at least more tangible, than political interests. This means that it has a strong capacity to facilitate transparent cooperation – a factor that has significant implications in terms

of France's capacity to realise the full potential benefits of cooperative interaction.

In all three cases presented in this study, it is clear that while France has pursued a variety of interests, it has also concurrently maintained systems that ensure the capacity to safeguard and defend its political position, and to enhance its national interests.[7] The identification of common and/or collective interests derived through what Young often refers to as 'harmonization' processes, initiates *incentives* for international cooperation.[8]

Incentives

Incentives, constitutes the second analytical criteria dedicated to examining the key drivers of French multilevel cooperation in this study. As has been demonstrated by the two cases outlined in Chapters Four and Five, bilateral arrangements provide a good 'model for cooperation,' by establishing collaborative policy and legal frameworks that intend to provide mutual benefit to both Parties involved.[9] The key words here are "mutual," and "benefit" – as according to complex interdependence theory, cooperation is much more likely to occur in the instances where Parties can identify the potential to achieve feasible joint gains through mutually beneficial deals.[10] While France's capacity to realise key incentives for cooperative engagement and achieve feasible joint gains is more challenging at the multilateral level,

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[7] Laurent Lucchini, et Michel Voelckel, *Les Etats et la Mer: le Nationalisme Maritime* (Paris: La Documentation Française), 317.

[8] Oran Young, "Sugaring Off: Enduring insights from four decades on environmental governance," paper presented to *The Colorado Conference on Earth System Governance* (Colorado State University, Colorado, 17-20 May 2011).

[9] Ibid.

[10] Robert O. Keohane and Joseph S. Nye, *Power and Interdependence*, 3rd Ed (New York: Longman Publishing, 2001).

incentives do influence French cooperation within both the ATCM and CEP forums – albeit to a less prevalent extent.

(i) France's incentives at the bilateral level

A key factor contributing to France's recognition of the potential to achieve feasible joint gains with bilateral partners has been the identification of common purpose. In turn, this has facilitated the occurrence of other contributing factors, such as the convergence of expectations, the establishment of zones of agreement, the ability to limit the costs of cooperative action, and the existence of reciprocity.

In relation to the first point, the reasons supporting France's decision to undertake a particular course of bilateral cooperative action with Italy and Australia, are characterised by the identification of a common purpose shared with these Parties, as well as the realisation of a mutually agreed upon end goal. To achieve this, the expectations of France and its potential partners surrounding goal attainment must first converge, in order then to create a zone in which agreement can be envisaged, facilitated, and achieved.

In both bilateral cases, France's engagement with its partners was to a large extent characterised by order and predictability – based on the fact that all Parties involved recognised a common purpose, and zones of agreement were reached relatively quickly. Vulnerability was reduced, as common goals were mutually defined and clearly communicated via information exchange, thereby limiting the potential for defection from agreement.

The existence of reciprocity (characterised by the fact that Parties perceived relations to be both beneficial and ongoing in duration), further motivated

France to undertake cooperative engagement at a bilateral level. The development of what Krasner terms the 'friendship transaction,' is facilitated by the fact that France identifies both Italy and Australia as fellow, longstanding, well-respected, and cooperative Treaty Parties, with whom valuable, and reliable partnership arrangements can be formed.[11] Consequently, cooperation is seen to be a worthwhile investment. Awareness of potential future benefits, and the ability to forecast how cooperative engagement will remain valuable over time, increases not only France's incentives to cooperate, but also influences both the type of strategies, as well as the level of the strategic effort it undertakes to achieve such benefits. France's capacity to realise and act upon these drivers is demonstrated most clearly at the bilateral level.

France's agreements with both Italy and Australia have continued to evolve over time, developing into more complex and complementary relationships that are proving extremely beneficial to all Parties. For example, while primarily initiated on the basis of addressing the problem of IUU fishing, the French-Australian Agreement also makes provision for scientific cooperation. Since the signing of the Maritime Cooperation Agreement in 2003, France and Australia have significantly widened the scope of their cooperation in this area, and pursue ongoing collaborative projects aimed at improving knowledge and data on meta-populations of Patagonian toothfish across the Kerguelen Plateau. Cooperative work in this area continues to grow through the high level of multilevel collaboration occurring between research teams

[11] Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," *International Regimes – A Special Issue of International Organization.* 36.2 (1982): 187.

drawn from various institutions of both Parties.[12]

The capacity for France to realise zones of agreement by undertaking joint decision-making with its partners, is significantly facilitated by the existence of both reciprocity and knowledge. The sharing of information, preferences, perceptions and beliefs, contributes to reassuring all Parties involved in negotiations, that outcomes intend to be mutually beneficial, and transaction costs minimal. This was an important motivating factor in France's decision to pursue cooperation with both Italy and Australia. Furthermore, as these relationships continue to develop positively over time, France realises the inherent value of maintaining ongoing bilateral cooperation, and of building upon existing arrangements with these partners. For example, although the French-Australian Agreement was initially intended to primarily achieve surveillance and enforcement outcomes, a positive externality has been the development of a high level of successful scientific research cooperation.

By cooperating to secure mutually beneficial deals with Italy and Australia, France has experienced significant gains, and achieved a variety of different goals that would have otherwise been challenging or impossible to realise outside of cooperative channels. For example, in establishing Concordia Station as a joint venture with Italy, France has been able to establish a second permanent Antarctic station, reaffirm its Antarctic presence, status, and political interests, expand the scope of its scientific projects, enhance Europe's presence in the region, and provide an excellent model of cooperation for all other ATCPs to follow.

[12] For example, key participating institutions on the French side have included, the *IPEV*, *Ifremer*, and *MNHN*, and on the Australian side, the AAD, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

While France's bilateral engagement has in some instances necessarily involved the incurrence of certain transaction costs, these have been perceived as both minimal and necessary in order to achieve wider favourable outcomes through cooperation that enhance France's interests, and assist in the achievement of its Antarctic agenda. In the case of the French-Italian Agreement, a transaction cost may be considered to be the fact that France cannot act autonomously in relation to the decision-making, operation, and management of Concordia – in all instances it must engage in these processes in close collaboration and coordination with its partner, Italy.

The establishment of Concordia Station provides a clear example of where France has made a 'rational and self-interested calculation' to bear certain costs associated with pursuing cooperation, rather than acting in isolation – an action that it perceived would result in sub-optimal outcomes.[13] France envisaged that the benefits of cooperation (i.e. the reduction of financial costs, and the development of a wider scope and capacity for scientific research) clearly outweighed the potential constraints involved with the task of coordinating and managing station activities in collaboration with another Party.

In the case of the two French-Australian bilateral Agreements, both Parties possess a high level of expertise in specific areas that provided a comprehensive and complementary approach to addressing key issue areas of collective interest and concern. While France had extensive expertise, practical experience, and capacity in terms of surveillance and enforcement operations in the Southern Ocean region, Australia had considerable expertise and experience regarding fish stock assessment procedures within

[13] Arthur A. Stein, "Coordination and collaboration: regimes in an anarchic world," *International Organization*, 36.2 (1982): ii.

Australia's EEZ. Consequently, by sharing information, expertise, and capabilities, through mutualising their respective means via the development of a joint agreement, both Parties have been able to experience a significant level of mutual benefit as a direct result of bilateral cooperation.

In establishing these bilateral agreements, France has demonstrated not only a will and desire to achieve mutually agreed upon outcomes with its partners, but has also pursued cooperation with these partners in regard to the means by which established collective goals can, and should be achieved – in short, not only what was to be achieved (including interests, goals and expectations), but also how these were to be actually implemented and realised – through the setting of mutually agreed upon collective agendas, the selection of joint approaches, and choice of the cooperative strategies to be employed.

The maintenance of well-established communication channels has been vital in ensuring that the transaction costs of cooperation between France and its bilateral partners remains low, and is an integral element in maintaining positive relations. This has been particularly evident in France's engagement with Australia, where not only has implementation of the two Agreements led to the elimination of IUU fishing within the respective zones of both Parties, it has also opened up, and facilitated new avenues of cooperation, some of which have been extended beyond the bilateral realm to include trilateral and multilateral level engagement – for example, the Collaborative East Antarctic Marine Census (CEAMARC).[14]

[14] Refer to Chapter Five for a more detailed discussion on CEAMARC.

By maintaining a sustained level of active cooperative interaction, communication channels between France and its partners are forced to remain open, thereby facilitating a healthy cycle of mutual cooperative goal achievement. Scientific research cooperation based upon the provision of increasing knowledge and expertise enables Parties to make decisions about control measures and policies, making cooperation 'widely used in [the suite of] international instruments for confronting global environmental change.'[15] Consequently, 'it is often much easier for Contracting Parties to agree upon cooperation in scientific research than to take specific control measures.'[16]

In both bilateral cases, France and its partners agreed on a common purpose. Establishing a joint station with Italy involved agreeing upon clear expectations regarding the purpose of the Station – most notably, the nature of the scientific agenda, enhancing the European dimension, the need to reduce financial costs, and ultimately, prioritising the internationalisation of Concordia. Both Parties agreed on the development of a formalised bilateral agreement that built upon existing complementary agreements, and established clear parameters for cooperation.

Similarly, in deciding to move toward formalised bilateral cooperation with Australia, France identified the significant benefits that could be gained with very limited transaction costs – notably, the protection of territorial sovereignty and fishery resources, reduction in financial costs through joint surveillance and enforcement processes, and scientific research collaboration in areas of collective interest.

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[15] Toru Iwama, "Emerging Principles and Rules for the Prevention and Mitigation of Environmental Harm," in *Environmental Change and International Law – New Challenges and Dimensions,* ed. Edith Brown Weiss, 107-123 (Tokyo: UNU Press, 1992): 116.
[16] Ibid.

It is important to consider whether the extent and level of France's investment in its agenda in the Antarctic region is comparable with the significance it grants to its claim. Fundamentally, bilateral cooperation is helping France remedy any shortcomings – for example, while station building enhances national prestige, it is also highly driven by strategic pressures. Nevertheless, France also recognises that status and influence is increasingly more readily obtained through excellence in scientific research, and therefore pursues extensive cooperative efforts in this regard.

- France's incentives at the multilateral level

France's capacity to realise key incentives for cooperative engagement, and achieve feasible joint gains at the multilateral level, is more challenging and problematic than at the bilateral level within the ATS. This is particularly the case within the forum of the ATCM – where a number of key factors can contribute to situations in which France is more limited in its capacity to identify, and act upon mutually beneficial opportunities that can be attained through cooperation. In the first instance, it is inherently more difficult for France's expectations to converge with those of a large number of foreign counterparts. This challenge is further exemplified in situations involving the discussion of complex, or especially contentious issues. In such situations, Parties often represent a wide, and often conflicting set of interests and preferences, resulting in national agendas coming to the fore.

The institutional context of the ATCM is in itself, not necessarily helpful in this regard, as the potential for discussions and debates to stagnate, and the occurrence of policy blockages (frequently a consequence of consensus based decision-making), is substantially higher than in situations characterised by

bilateral interaction. This has the capacity to initiate confusion, misunderstanding, and conflict between Parties, and ultimately increases the potential for delays in decision-making on critically important issues.

As a result, it is increasingly difficult for France (and other Parties) to envisage, and achieve zones of agreement on certain topics within the ATCM – particularly in regard to contentious topics, and issue areas in which a large number of Parties represent vastly differing national interests, or in which disagreement has traditionally tended to characterise negotiations, and impede consensus. The issue of Antarctic tourism provides a notable example, as difficulties surrounding the convergence of expectations have often had a direct impact on the capacity of France to realise the benefits that may be achieved through cooperation in the ATCM. In contrast to many ATCPs, France occupies a definitively strong regulatory policy approach to tourism activities. As such, its tourism agenda has at times been perceived by a number of Parties as somewhat contentious, confusing, and overall unacceptable to the wider spectrum of positions on this topic in the ATCM forum. Consequently, a number of Meeting discussions based on France's tourism proposals have been particularly challenging, and at times, seemingly futile.

For effective cooperation to occur, France and any potential partner must be able to achieve not only a level of agreement on 'the character and value of the subject singled out for regulation,' but also the means and methods by which regulation should be pursued and implemented.[17] A failure to achieve mutuality of expectations with foreign counterparts results in a significantly

[17] Ernst B. Haas, "Why Collaborate? Issue Linkage and International Regimes," *World Politics,* 32.3 (1980): 396.

reduced capacity for France to 'conventionalize behaviour,' or allow for the development of 'procedures inspired by a common purpose.'[18]

In spite of the challenges France has encountered in terms of being able to experience mutual expectations with a large number of its foreign counterparts in regard to tourism regulation, France has somewhat failed to demonstrate evidence of 'state learning' – whereby the gaining of knowledge and institutionalised experience initiates a 'reshaping,' or 'redefinition' of some national interests in order to enhance the capacity to achieve joint gains.[19] Since France first demonstrated an active interest in Antarctic tourism in the mid 1990s, its principal goals on this topic have not altered – it has remained firmly oriented on pursuing a strong regulatory framework, regardless of the expectations and goals of the other ATCPs.

Like other ATCPs, France's selection of which goals to pursue in the ATCM is influenced by knowledge based calculations (factoring in the potential for, and level of transaction costs); by the existence of linked issues (or the potential to link issue areas); and by learned experience (including the consideration of the value of reciprocity and information sharing). In theory, these are key factors that contribute to France's capacity to recognise, define and pursue joint gains.[20] Nevertheless, under conditions of complex interdependence, the capacity to make concrete predictions about cooperative behaviours and policy outcomes has become increasingly challenging in the contemporary global political environment.

[18] Oran Young cited in Krasner, "Structural Causes," 193.
[19] Haas, "Why Collaborate?" 390.
[20] Ibid, 361.

While states may change and redefine their interests and goals to realise joint gains, successful cooperation can only take place when the opportunity costs associated with joint action are perceived to be less than the costs of individual action.[21] Although France may be aware that knowledge 'sensitizes' actors to both the costs and benefits of cooperation by 'sharpening' their awareness to achieve gains, it only becomes a definitively determinant political factor, up to the point that it 'shows up as an ingredient in the formulation of national demands for altering the existing pattern of interdependence.'[22]

In regard to its multilateral engagement on Antarctic tourism regulation over the last decade, France has not indicated a significant or definitive shift in its interests or goals on this issue in order to realise any noticeable feasible joint gains associated with cooperative action. Consequently, while France may seek enhanced cooperation in this area, a failure to adjust its interests or goals (in an effort to make them more acceptable to a larger number of Parties in the interest of achieving consensus), often tends to remain a challenge faced by France regarding its multilateral engagement on tourism within the ATCM.

Knowledge and reciprocity (while more difficult to realise at the multilateral level than at the bilateral level) are crucially important factors within the ATCM. It is in this politically charged institutional environment that France's capacity to share and communicate its key goals cooperatively is most challenging. This has a strong capacity to raise sensitivity, and vulnerability amongst other Parties, and may contribute to a decrease in reassurance concerning France's behaviour and intentions in regard to the

[21] Ibid, 390.

[22] Ibid, 392.

protection of the fundamental national interests of other Parties. This is a vitally important factor when considering the incentives for French cooperation within the ATCM.

Knowledge and information sharing are exceedingly valuable cooperative tools utilised by France at a multilateral level of engagement – particularly within the forum of the CEP. Nevertheless, the capacity for knowledge and information sharing to generate more cooperation within the ATCM is often obscured by the propensity for France's expectations to exist well outside those belonging to other Parties. Consequently, this at times has the tendency to inhibit France's capacity to recognise fully the value of reciprocity, and realise feasible joint gains.

As the number of actors France cooperatively engages with at the multilateral level increases, so to does the potential to experience suboptimal outcomes. As Treaty membership widens, policy coordination, and decision-making concerning Antarctic affairs and governance becomes inevitably more complex. Longstanding ATCPs such as France, need to step up their efforts to engage cooperatively in order to remain influential participants within the Antarctic political arena. In most cases, the potential transaction costs faced by France within the ATCM, are also noticeably higher and more challenging to overcome than within the CEP, or at the bilateral level. Given France's tendency to at times act in what could be termed an 'isolationist' fashion on some issues within the ATCM, it could be suggested that a fear of significant transaction costs plays a considerable role in determining the nature and extent of France's cooperative behaviour in the ATCM forum.

In recent years, France has demonstrated a concerted effort towards enhancing multilateral cooperation and collaborative engagement in the lead

up to, as well as during ATCMs. This has been most evident in the development and submission of co-authored working papers detailing joint proposals and recommendations. Continuing to build upon this trend will assist France in identifying areas of common interest (including alternate views), and defining mutual goals with other Parties. It would also provide France with opportunities to 'test the waters' on certain issues in order to gauge wider levels of support, make any necessary adjustments to proposals, and would contribute to improving the overall capacity to achieve consensus – particularly regarding issues that are likely to be controversial, contentious, or have the capacity to divide Parties. At times, France does not demonstrate an overarching policy of aiming for consensus within the ATCM – particularly in relation to tourism regulation. While this may appear to suggest that consensus may not constitute a major priority in terms of France's goals, and could draw into question France's commitment to finding collective solutions within the ATCM forum, it clearly highlights France's high level of dedication to tourism regulation principles, and more widely, to environmental protection.

Collaborative engagement enhances France's capacity to make progress toward achieving its fundamental objectives in regard to strengthening the regulatory framework on tourist activities – a step that would facilitate the fulfilment of key national interests. In the instances where France has demonstrated a concerted effort to undertake cooperation with other Parties within the ATCM (for example, by co-authoring working papers), the proposals contained in those submissions have been generally received more positively, and overall have tended to achieve a better success rate in terms of generating substantive progress on issues – such as deciding to undertake collaborative work on an issue intersessionally, or through the adoption of binding measures.

Crucially, many of the *incentives* examined above (notably, the convergence of expectations, issue linkage, knowledge, and reciprocity) have an impact on France's potential to realise and act upon (or miss out on) the benefits of feasible joint gains within the context of the ATCM. This may not necessarily occur only in situations characterised by conflicts of interest or disagreements amongst Parties (although such situations will tend to preclude the capacity of Parties to achieve joint gains even further), but may simply be the result of the inherent complexity of issue linkages.

Having completed an analysis of the empirical data employing the first two analytical criteria – *interests* and *incentives*, some insights and conclusive points relating to the motivating factors and key reasons behind France's multilevel cooperation within the ATS, have been identified and examined. The following two sections provide an analysis of France's strategies of cooperative behaviour within the ATS.

Interactions

Interactions constitutes the first of the analytical criteria employed in this study that aims to assist in identifying, and examining the principal approaches and strategies employed by France in its multilevel cooperative engagement in the ATS – particularly in relation to how issue-linkage affects agenda setting and formation.

(i) French interactions at the bilateral level

In planning for, and approaching bilateral engagement within the ATS, France's capacity to set and organise its policy agenda at the bilateral level is

considerably less challenging than at the multilateral level. Furthermore, in pursuing a bilateral agenda, the identification, and consideration of the agendas of other Parties is also less complex. As pointed out in the preceding section, this facilitates France's capacity to identify potential bilateral partners (with whom France may have already identified common or collective interests, shared mutual expectations, and perhaps even recognised zones of agreement). Raising the level of certainty experienced by Parties positively impacts on France's capacity to pursue cooperative behaviours. As the two bilateral cases outlined in this study demonstrate, the nature and dynamics of France's bilateral interactions within the ATS are less likely to be contentious, and therefore become more predictable than at the multilateral level.

In considering France's bilateral agreements with both Italy and Australia, the existence of an identifiable hierarchy of issues plays an important role in determining how France shapes its formalised cooperative relations with these partners. While issue hierarchies may not be entirely definitive at any level of engagement, they are much more likely to exist, and be more clearly identifiable at the bilateral level. As a result, issue-linkage (including the nature of relations between those actors involved in linking issues) therefore tends to be less complex than at the multilateral level.

Consequently, France's cooperative interaction is enhanced in a number of key ways – first, it is better able to consider a wider perspective in regard to how issue-linkages may impact on the setting of its agenda; second, its ability to recognise, define, and develop appropriate policy approaches is improved; and finally, its capacity to implement these approaches by employing well-considered and planned cooperative strategies is facilitated.

Finally, there is also less potential for a blurring, or merging of domestic and foreign policies at the bilateral level. This may be attributed to the fact France and its partners are better able to identify, define and prioritise issues in advance – thereby increasing issue transparency. Clearly identifying and defining commonality of interests and goals prior to the undertaking of any formal processes, maximises the potential to realise the mutual benefits of cooperative engagement by lowering issue sensitivity. By enhancing transparency, and limiting issue sensitivity, France's capacity to link relevant issues with its partners, and more accurately take into account the mutual benefits and constraints of interaction, is significantly improved.

These factors also heighten the importance of France establishing, and maintaining open communication and networking channels with its key foreign counterparts. At a bilateral level, communication strategies between France and its partners are simplified by two main factors – first, the number of available communication channels between states are automatically fewer; and second, regarding France's relations with Italy and Australia, the communication channels with each Party were pre-existent and explicitly clear.

Given that France's bilateral agreements with Italy and Australia have been initiated by a bottom-up approach (officially established through traditional channels such as foreign ministries, but at times developed and managed at ground level between and across various other government departments, as well as semi or non-governmental agencies), communication pathways are generally more straightforward to coordinate and maintain bilaterally.

For example, while the French-Italian Agreement was formally negotiated between the respective foreign ministries, the decision to develop a formal

bilateral arrangement, and the subsequent preliminary discussions that took place, initially occurred at an inter-agency level between France's *IPEV* and Italy's *PNRA*. Similarly, in the case of France's cooperative partnership with Australia, a successful bilateral agreement was built on the foundation of an extensive history of positive relations between the two nations in the Antarctic and Southern Ocean region. This included to a large extent, strong pre-existing institutional links between the *IPEV* and the AAD at an agency level, as well as the working relationships that have been cultivated between individual research teams and scientists from both Parties.

A high interdependency of issues between France and its partners provides a greater level of reassurance to participants that their mutual interests and goals are likely to be met through cooperation. As a result, France's agenda setting at the domestic level (occurring prior to and during negotiations), as well as bilaterally between France and its partners, tends to be generally well defined, organised, and characterised by narrow zones of potential disagreement.

In attempting to negotiate with Parties at a bilateral level, France is also more capable of identifying, and remaining aware of the agendas of other Parties. Open communication channels, and positive networks of relations between key officials at a variety of levels, also assists France in pursuing negotiation strategies based upon mutual definitions, and prioritisation of goals and agendas with its partners. In the case of France's agreements with both Italy and Australia, all Parties were clear prior to, and from the outset of negotiations, about the scope and parameters of their respective agendas, as well as those of the other Party, and were able to communicate these through ongoing bilateral dialogue and negotiation.

- France's interactions at the multilateral level

Since the establishment of the Madrid Protocol in the mid 1990s, France's capacity to pursue more consistent policy patterns within the ATCM has become increasingly evident, especially throughout the last decade. Despite the fact that France has demonstrated a high level of activity within the CEP since its first meeting in 1998, its level of cooperative participation and leadership within this forum has also become more prevalent in recent years. In considering France's agenda setting regarding these two institutions, it is important to draw attention to the differences that characterise France's interaction within the ATCM and the CEP – while France places significant emphasis on maintaining an active and influential role within both these forums, its capacity to achieve this successfully is particularly evident within the CEP.

France dedicates a significant effort to maintaining a position of influence within the ATCM as the key decision making body of the ATS – a position it perceives to be critically important in its capacity as an original signatory to the Antarctic Treaty, as well as its status as a claimant state. France has traditionally occupied an influential role within the ATCM forum, and where possible, it attempts to use its credibility within the ATS, and reputation as a leader in Antarctic science (increasingly confirmed by its fundamental role in the CEP), as a means of achieving and maintaining this position.

France has always been a major player, and cooperative participant within the CEP, occupying a prominent role characterised by influence, cooperation, and credibility. Renowned for its valuable contributions based on a high level of quality scientific research and technical expertise on key areas relevant to the CEP's work, France has increasing demonstrated a strong

capacity to occupy a leadership position within this forum in recent years. Highly committed to fulfilling the environmental interests of Antarctica, France routinely cooperates with a diverse range of CEP Members on a wide range of issue areas in order to achieve the collective goals established by the CEP.

Since the entry into force of the Madrid Protocol in 1998,[23] France has consistently continued to develop policies aimed at stricter Antarctic tourism regulations on the basis of environmental protection. Its position on this issue is generated and supported by two main priorities –political factors (marked by a desire to retain a position of prominence and influence within the ATCM); as well as environmental factors (identified by a fundamental concern for the long term integrity of the Antarctic environment, and a desire to be perceived as increasingly environmentally conscious).

France pursues multilateral cooperation with a number of Parties in relation to tourism and non-governmental activities in Antarctica. For example, at the Thirty-fourth ATCM in Buenos Aires in 2011, France submitted a joint working paper with Germany, the United States, the Netherlands, and New Zealand, that sought to ascertain whether there would be consensus amongst Parties to undertake a review of the current international rules relating to tourism in Antarctica, and where necessary, identify the most appropriate mechanisms to address regulatory gaps, such as the implementation of binding measures.[24] By aligning with other like-minded Parties in the submission of the joint paper, and in attempting to gauge the positions and

[23] Annex V relating to Area Protection and Management entered into force in 2002. Annex VI relating to Liability Arising From Environmental Emergencies is currently still being approved by Parties.

[24] United States, France, Germany, Netherlands, and New Zealand, "ATCM Review of Tourism Rules and Regulations," *WP 26*, ATCM XXXIV (Buenos Aires, 2011).

views of other ATCPs on this matter, France attached considerable credibility to its position.

Despite the challenges France has at times encountered regarding the positive reception of some of its tourism proposals by other Parties at ATCMs, France has clearly demonstrated its will and capacity to remain steadfast in terms of its priorities, and the political orientation of its Antarctic tourism agenda. This clearly illustrates France's fundamental ongoing interest in, and commitment to addressing issues it perceives to be key concerns related to tourism and environmental protection in the Antarctic region. Most importantly, it highlights the priority position environmental protection occupies on France's Antarctic agenda.

While France may recognise common purposes and opportunities for mutually beneficial deals, and also experience a convergence of expectations with various potential multilateral partners, joint decision-making processes are fundamentally more complex, and challenging to achieve at the multilateral level, especially within the ATCM. In this regard, it is important to consider that the ATCM as an institution in itself also occupies an influential role regarding its capacity to contribute to shaping the nature and scope of France's Antarctica agenda (as well as the national agendas of other Parties). While France recognises that interdependent decision-making is a necessity within multilateral institutional settings such as the ATCM, due to the increased number of actors, interests, and political agendas active within this forum, coordination problems have the capacity to affect France's agenda setting and policy formation processes.

Nevertheless, while these factors have the potential to impinge upon the manner in which France engages in joint decision-making processes,

interactive decision-making also involves certain 'constraints' that are often closely implicated with 'high levels of mutual dependence.'[25] This is a significant contributing factor in the development of multilateral cooperative interactions. Political interdependencies within the multilateral forum of the ATCM are intrinsically more complex, and fragile than at the bilateral level, as well as within the CEP. Cooperation in regard to the goals of actors is vitally important within the ATCM, particularly as it offers France and other Parties the opportunity to consider whether there is the potential to reach consensus on a given topic.

While the political dynamics of the ATCM have the capacity to influence how France shapes and arranges its Antarctic agenda at the domestic level in advance of Meetings, as an influential and well respected Treaty Member, France's national agenda setting also has the potential to affect the formation of the ATCM agenda to a certain extent. France's policy position, and goals related to Antarctic tourism constitute a major determinant factor in shaping its agenda in the ATCM. As has been outlined in the preceding chapter, France generally considers tourism to be a less legitimate, or justifiable activity for causing environmental and safety impacts in Antarctica than other activities such as scientific research, and should therefore be subject to the strictest regulation.[26]

In pursuing this policy direction within the ATCM, France also expresses a high level of concern that the issue of comprehensive tourism regulation has not been granted adequate attention by ATCPs, and encourages Parties to

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[25] Oran Young, *International Cooperation: Building Regimes for Natural Resources and the Environment* (New York: Cornell University, 1989), 59.

[26] France, "Report of the Informal Intersessional Group on Tourism Activities in Antarctica," *IP 12*, ATCM XXVI (Madrid, 2003).

engage in substantive discussions, and adopt policies geared toward enhanced regulatory tourism provisions. France's dedication to achieving a more comprehensive policy for tourism regulation in the ATCM is evidenced by the high number of working papers (and the nature of the proposals and recommendations contained within these papers) it has submitted on tourism and associated issues since the mid 1990s, as well as by the way in which France prepares for, and conducts tourism discussions within the ATCM.

The potential for a lack of clear distinction between French domestic and foreign policy is also more prevalent at the multilateral level than at the bilateral level – particularly within the ATCM forum. France's domestic level actions possess not only the capacity to shape and constrain its interactions at the international level, but also those of its foreign counterparts, and vice versa. The potential for a constant clear hierarchy of issues is limited in multilateral settings such as the ATCM. This absence of clear issue hierarchies, as well as the fact that the agendas of Parties on any given issue may change or merge (often in relation to power distribution within the Treaty system), tends to increase the sensitivity surrounding issue areas, and makes issue linkage more difficult to achieve. This often produces a less stable, and more contested environment, and makes both bargaining and negotiating strategies not only more attractive, but also often necessary policy options.

In summarising France's multilevel interactions in relation to the three case studies, it is clear that its capacity to use issue linkage in the setting and formation of its agenda is intrinsically more complex (although seemingly also more frequently attempted) within the highly politicised multilateral environment of the ATCM than at the bilateral level. France also

demonstrates a strong capacity to link issues within the CEP – a factor that has contributed to its cultivation of a cooperative leadership role within this forum.

Institutionalisation

Institutionalisation is the second criteria applied in this study that seeks to assist in identifying and analysing the principal approaches and strategies employed by France via multilevel cooperative processes within the ATS. According to this criterion, institutions (regardless of their type) can be considered as instruments of state policy.[27] The employment of institutionalisation processes (including, various types of issue linkage, negotiation, certain forms of bargaining strategies, as well as institutions themselves as policy instruments) are evident at France's multilevel engagement in the ATS, but are particularly identifiable at the multilateral level within the ATCM.

(i) France and institutionalisation at the bilateral level

Consistent patterns of behaviour and interaction characterise France's bilateral relations with Italy and Australia. Although France's bilateral agreements with Italy and Australia were both proposed, negotiated and signed within relatively short time frames and with limited difficulty regarding the development of provisions, certain institutionalisation processes are nonetheless evident.

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[27] Robert Jervis, "Realism, Neoliberalism, and Cooperation: Understanding the Debate," *International Security*, 24.1 (1999): 59.

With less ambiguity surrounding preferences, interests, goals and intentions than at the multilateral level, France is better able to maintain coordinated, and coherent approaches and strategies that work toward achieving cooperation. Furthermore, in the instances that these strategies assist France in achieving its primary interests and agenda successfully, the desire to maintain existing processes and practices through consistent interactions (thereby establishing ongoing identifiable behavioural trends and patterns) is reinforced.

By recalling the institutional history of both formal and informal past bilateral engagement, France's capacity to identify and measure the benefits of prior bilateral cooperation is enhanced. When only two Parties are involved, past successes or failures can be more easily identified, providing a solid basis on which to examine how current cooperative engagement can be most effectively, and equitably pursued. For example, France's establishment of a formalised agreement with Italy took place with the knowledge of the success of pre-existing bilateral arrangements (such as the Cultural Agreement), combined with the evidence of positive, longstanding relations with a key European partner. This context of positive bilateral interactions facilitated France's capacity to perceive the fundamental benefits of pursuing a cooperative arrangement with Italy in Antarctica.

Similarly, through signing the bilateral Agreement with Australia, France acted upon knowledge it had gained from a strong history of cooperative engagement with Australia in the Antarctic and Southern Ocean region. Prior to the signing of the Agreement, France and Australia had already embarked upon a certain amount of informal cooperation in regard to surveillance of IUU activities, and recognised that this had proven both successful, as well as mutually beneficial to both Parties. The bottom-up, and

informal nature of a significant proportion of research cooperation undertaken between France and Australia, resulted in government departments, agencies, institutes, research teams, and also individual scientists, initiating networks aimed at developing, and sharing information and strategies that have not only achieved outcomes of mutual benefit to both Parties, but also more importantly, have enhanced the wider values of Antarctica. France's scientific cooperation with Australia in recent years also provides a prominent example of how a bottom-up approach can evolve into a broader range of complex institutionalised cooperation, involving a wider range of international participants.

- France and institutionalisation at the multilateral level

Key elements of *institutionalisation* are especially prevalent in France's behaviour within the multilateral context of the ATCM, and the CEP. Nevertheless, while France's engagement within the ATCM does indicate patterns of behaviour and interaction, these patterns are overall less perceptibly consistent, and are therefore more difficult to explain definitively than at the bilateral level. This is due to a number of factors. First, the capacity for France to develop multilevel agreements is determined to a large extent by the scope of the institutional context in which it operates, as well as by the number of actors involved. As the number of participants increases, so too does the number and complexity of the interests, preferences, goals and agendas involved. Consequently, France must be prepared to take into account the interests and agendas of a much wider, and more diverse group of actors, prior to, during, and in-between Meetings.

In light of this, France must definitively formulate and implement its own agenda before deciding which strategies are most useful and appropriate in

order to achieve its objectives at Meetings. This calls for more advanced coordinating mechanisms at the multilateral level. While the greater number of actors and agendas involved in ATCMs and CEP Meetings results in elements such as issue-linkage, negotiation, bargaining, and the use of institutions themselves, constituting more attractive instruments of state policy, the employment of these strategies also has the tendency to potentially exacerbate the complexity of existing relations between Parties. As the number of actors involved in cooperative processes increases at the multilateral level, institutional factors not only become intrinsically more important, but also inherently more complex, and difficult to implement and achieve successfully.

It is important that France maintains the ability to recall, and take into account the institutional memory of the ATCM – in particular, how the decisions of one Meeting (including the issues on which consensus could not be reached) effect interaction, and capacity for cooperation at the next. However, when selecting the type of policy instruments and strategies to pursue, this proves intrinsically challenging at the multilateral level. Institutional memory lapses pose significant potential challenges to France's capacity to achieve its agenda – especially in the instances involving complex issues.

Power resources specific to issue areas, as well as alterations to the distribution of power within issue areas, are highly relevant factors that influence how France makes decisions concerning the selection and employment of policy instruments within the ATCM. France maintains a clear, well established, and strategic policy approach to tourism within the ATCM. Its position on this topic is supported by the significant volume of working papers submitted, the nature of the proposals and

recommendations contained in those papers, the methods selected to deliver these proposals, as well as how it chooses to engage in discussions with other Parties within the ATCM forum.

In terms of negotiating strategies, integrative bargaining is particularly difficult for France to achieve within the ATCM – as in order to engage successfully in negotiations, France and its foreign counterparts must first accept, and then agree upon mutual goals. This is particularly difficult to achieve in multilateral negotiating contexts, where the sheer number of actors involved, challenges the capacity to reach mutual goal agreement. It is also more challenging for France to identify key actors, define and articulate goals, and predict the behaviour and decisions of its foreign counterparts. Consequently, in this environment of increased uncertainty and unpredictability, characterised by a wide spectrum of diverse actors and competing national interests, France recognises that its capacity to achieve significant benefits (both individual as well as collective) through cooperation may be limited in relation to certain issue areas – particularly in regard to politically challenging issues such as tourism.

Another factor that challenges France's capacity to cooperate at the multilateral level within the ATCM, is the fact that the extent of knowledge surrounding a number of issues areas is either insufficient, incomplete, or an accepted body of knowledge is non-existent. National agendas (that may not necessarily be completely opposing or disparate) are pursued and implemented via certain instruments of state policy that will by their very nature, tend to result in a policy blockage within the ATCM. At times this occurs at ATCMs (most often concerning issues regarded as contentious, or particularly challenging concerning the achievement of consensus, due to the fact that interests do not necessarily intersect). In such instances, agreement

in the short term is often not possible, resulting in consensus remaining unachievable. This means that as Parties can but edge incrementally toward reaching agreement on some points, continual forward progress on an issue is extremely difficult, and is often at best, exceedingly slow.

Considering Antarctic tourism management a high priority area, France strongly advocates a global, structured, and organised approach to this issue within the ATCM, and maintains a specific focus on how rules and regulations should be adopted. This point is essential in understanding France's dynamic approach to tourism matters within the ATCM – as although most Parties agree to a certain extent that some form of tourism regulation is essential, exactly how such regulations should be decided and implemented; and more precisely, what these measures should consist of, remains an area of disagreement between France and a number of other Parties. With so many Parties occupying a diverse range of views along the Antarctic tourism regulation scale (ranging from minimal or limited regulation, to extensive comprehensive regulatory frameworks), the ATCM forum struggles to find a middle ground on the nature and extent of regulatory provisions for tourism.

While it may be France's desire and intention to cooperate, and gain support on tourism and related issues within the ATCM, this is less visible or detectable than in relation to its engagement both in the two bilateral cases examined, as well as in the CEP. This can be attributed to the way in which France firstly organises, sets, and prioritises its agenda at the domestic level, by the way in which it introduces this agenda at the international level within the multilateral forum of the ATCM, and also by the mode of operation, and types of cooperative strategies it tends to employ and pursue in the ATCM.

While demonstrating a high level of knowledge and expertise, and with the intent to make valuable contributions aimed at progressing priority issues within the ATCM forum (tourism being a prominent example), on occasions France demonstrates a tendency to operate in what could be termed policy isolation. An inclination to behave in this way has in some circumstances played a contributory role in a generally widespread rejection of its proposals by other Parties at ATCMs. This may be attributed to a number of possible factors, and is not solely confined to France's mode of engagement. For example, other Parties may lack adequate awareness, or knowledge of the nature of France's policy position, or its political intentions on certain issue areas prior to Meetings, and this could result in certain French proposals and recommendations initiating an element of surprise or confusion amongst some Parties. As a result, this may under certain circumstances and on some issues, create the perception of France's behaviour as confusing, seemingly ad hoc, and somewhat isolationist in its policy approach at ATCMs.

This has also contributed to the view amongst some ATCPs, that in spite of France's good intentions (the broad outcomes it seeks to achieve to uphold the wider values of Antarctica), and conceptually sound, substance rich working papers, the nature of some of France's specific proposals are at times largely impractical, and generally unacceptable to the interests of a wide range of ATCPs. For example, at the Thirty-fourth ATCM in Buenos Aires in 2011, France submitted a paper that proposed to limit tourist and non-governmental visits to sites at which site guidelines already exist. While the Meeting endorsed France's intention to limit potential environmental damage and improve human safety requirements, and noted that wider concepts in the proposal were useful for tourism management, the vast

majority of ATCPs expressed a range of concerns.[28] As the proposal was widely perceived by Parties as both impractical, and unsuitable to the wider interests of Antarctica, it did not receive the support of the ATCM.

In these instances, the wider perception among ATCPs is that France's participation within ATCMs can appear dislocated from the institutional interactions of the Meeting (given the need to gain consensus in order to achieve forward progress on issues), and from the actual positions of other Parties in regard to certain issues. In turn, this can have a major impact on not only how France is perceived by its foreign counterparts, but also affects how these Parties interact with France within the context of the ATCM, as well as intersessionally.

Inadequate prior consultation with other Parties in order to test how its proposal may be received, means that France forgoes the option of gauging alternate opinions, indications of level of support, or the creation of valuable alliances that would likely add political weight and credibility to a proposal. Given that France already occupies quite a different approach to tourism than a number of other Parties, the instances in which it politically isolates itself in such a fashion, limits its capacity to obtain a reasonable level of awareness concerning the potential of its proposal to obtain consensus. It has been suggested by some international observers and ATCP representatives, that France's tendency to operate in an institutionalised vacuum, coupled with the way in which France at times approaches Meeting discussions on

[28] Most notable amongst these concerns was that by limiting activities to certain sites, the proposal may be potentially counterproductive – in that it may increase pressure on the most visited sites, and could have the potential to actually increase environmental impacts.

certain topics, indicates that it is to a certain extent, unprepared to undertake effective discussions at Meetings and is not sufficiently consensus oriented.[29]

France's engagement in this mode of political behaviour has on some occasions seen it significantly miss the mark – both in terms of a capacity to gauge the positions of other Parties, as well as to realise the achievability of consensus. This indicates that either France's ability to recall, read, and fully appreciate the institutional history of the Meeting, as well as the positions and agendas of other Members in regard to tourism is limited; or, that France attends Meetings aware of these factors, but pursues its agenda regardless of whether there is a realistic capacity to obtain consensus on any given tourism proposal. In either case, France's ability to achieve stricter tourism regulations – a topic on which it maintains strong interests, to an extent, currently remains limited.

Despite the fact that France's political behaviour is, in some instances, (those in which it pursues a policy agenda that is either disparate to those of many other Parties, such as tourism regulation) perceived by other ATCPs as somewhat limited in its cooperative capacity due to the methods, and strategies by which it seeks to attain its goals, France has demonstrated overall enhanced cooperative engagement and active participation within the ATCM over the last decade. It has made a solid contribution to tourism, human risk, and maritime SAR issues, and has pursued cooperation on a number of occasions through the development of co-authored papers (both bilateral and multilateral) via the formation of alliances, and through informal consultations during Meetings. This has led to highly successful outcomes that may not have been achievable outside of cooperative channels.

[29] Based upon a variety of interview and personal communication data.

In considering institutions as an instrument of state policy, the forums of the ATCM and the CEP provide several key elements that assist France in pursuing cooperative strategies. First, in providing a formal institutionalised context under the provisions of the Antarctic Treaty, in which Parties are expected to cooperate in the wider interests of Antarctica, the behaviour and interactions of ATCPs is shaped and constrained to a certain extent by the inherent institutional context of the ATCM. Nevertheless, significant scope remains for Parties to bring influential national agendas to the ATCM negotiating table. At times, the capacity of the ATCM forum to anticipate outcomes, means that France, and other Parties can choose to alter their interests and adjust their behaviour accordingly.[30] Discussion at ATCMs significantly increases understanding and knowledge about issues, as well as the interests, preferences and agendas of other Parties – thereby providing France and other participants with important information and informed strategic decision-making that can motivate Parties to recognise the benefits of cooperation.

Somewhat contrasted to the nature of its interaction within the ATCM, France's engagement within the CEP, is characterised by clear, and consistent patterns of cooperative behaviour. An active, and contributive Committee Member since the first meeting of the CEP in 1998, France maintains a high level of cooperative engagement with a number of Parties across a wide range of issue areas. In recent years, France's high level of commitment to, and expertise on key areas of the CEP's work agenda, has seen it increasingly take the lead on a number of important issue areas. For example, France has convened and chaired several workshops, Meetings of Experts, and ICGs on

[30] Jervis, "Realism, Neoliberalism, and Cooperation," 59.

a variety of topics. France strongly encourages cooperative relations among all Parties within the CEP forum, and remains consensus focused.

France demonstrates a comprehensive and practical understanding of both the key issues encompassed by the CEP, as well as of Meeting dynamics – particularly, the positions of other Parties. France also possesses a sound awareness of the institutional history of the CEP, and draws upon this knowledge in order to inform agenda setting processes, establish goals, shape decision-making, and select cooperative strategies, such as issue linkage to achieve collective outcomes.

A strong capacity to recall, and evaluate the major debates of previous Meetings, enhances France's ability to adapt to institutional change and evolution, respond quickly to new and emerging issues, and develop coordinated, and cooperative responses and strategies. To a significant extent, this can be attributed to the highly effective leadership role France has pursued within the CEP in recent years. Given that sound leadership significantly contributes to the protection of national interests, France's adoption of a leadership role, and enhanced active engagement on a variety of issues within this forum, has been especially prevalent since the election of Dr. Frenot as Vice Chair (2005-2009), and now current Chairman of the CEP since 2010.

The nature and extent of France's cooperative behaviour within the CEP, is markedly different from that which it demonstrates in the ATCM. Separate from the political overtones of the ATCM, the CEP is better able to provide an institutional environment in which France and other Parties can place political and economic interests aside in order to concentrate on important environmental concerns. Consequently, as the institutional setting of the CEP

facilitates France's capacity to participate in a more freely cooperative manner, France is able to place the wider values of Antarctica at the forefront of its agenda, and above and beyond purely national interests. In some contexts, this has had flow on effects regarding the shaping of France's policy agenda and mode of operation within the ACTM – tourism regulation constituting a notable example.

As the integral institutional forum for science under the Madrid Protocol, the CEP plays a pivotal role in increasing scientific understanding and knowledge amongst Parties. Importantly, this provides France and other Parties with vital information and data that informs joint decision-making processes, and in many cases leads France and other Parties to realise the critical importance of undertaking cooperation rather than independent action on a number of issues. Through the provision of constructed focal points, the institutional dynamics of the CEP facilitates cooperative engagement amongst a wider group of actors, informs strategic decision-making, and ultimately motivates Parties to recognise the collective benefits of cooperation.

Environmental protection, and scientific research are areas in which France (and other Parties) display a greater willingness and capacity to cooperate – factors that considerably facilitate more frequent, and higher levels of multilevel cooperation within the CEP. From the perspective of national policy, there is less at stake within the CEP forum, as environmental and scientific agendas and policies tend to be relatively neutralised (less overtly politically sensitive), as well as less complex to organise. This is due to the fact that within the CEP, interaction between France and its foreign counterparts takes place largely between scientists, and expert representatives from various environmental departments of government.

Neutralised agendas are more likely to be characterised by policies that reflect a wider, and growing awareness of the critical necessity to uphold Antarctica's intrinsic environmental and scientific values, and thereby generate cooperative strategies, even within institutionalised settings. Establishing more of a mutually agreed upon, transparent, and level institutional playing field, has greater potential to result in France (and other Parties) gaining more assurance that their interests are being met, and that their individual as well as collective agendas are achievable. This is particularly evident within the CEP, where France routinely pursues successful cooperative arrangements with a number of Parties on key issues. For example, France has undertaken successful trilateral cooperation with Australia and New Zealand on the issue of non-native species introduction, and has engaged in multilateral cooperation with a number of Parties on developing a regulatory framework for biological prospecting.

Given that the nature and dynamics of regimes change and evolve, the existence of a 'coalition of influential actors prepared to take the lead' in 'jump-starting' important initiatives that provide 'extra push at critical junctures,' is considered by Young to be vitally important.[31] This is particularly the case, since international institutional arrangements (particularly regimes concerned with environmental matters) do not remain static, but rather 'wax and wane,' and ultimately evolve over time.[32]

Overall, France's behaviour and mode of interaction within the CEP has become increasingly one of not only clear institutional leadership, but also one that is characterised by cooperation led by example. Importantly,

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[31] Oran Young, "Effectiveness of international regimes: Existing knowledge, cutting-edge themes, and research strategies,' *Proceedings of the National Academy of the Sciences (PNAS) Early Edition* (2011): 3.
[32] Ibid.

France's demonstrable policy of cooperative engagement within this forum contributes to facilitating, and fostering the development of ongoing cooperative pathways within the institution by encouraging other Parties to follow suit.

The institutional forums of the ATCM and CEP open up significant multilevel avenues for the establishment of networks of communication. This presents France with a wide array of institutionalised opportunities to strengthen existing, as well as develop new cooperative ties with other Parties, and also facilitates the establishment of positive relations at a variety of levels. Both these forums (but especially the ATCM) widen France's opportunities to negotiate, and employ political bargaining tactics where necessary. Significantly, as key ATS institutions, the ATCM and the CEP are fundamentally important in terms of providing institutionalised contexts in which Parties can achieve multilevel cooperative agreements aimed at ensuring environmental protection collectively.

Discussion

The analysis undertaken in this chapter has been established on a framework based upon international regime and complex interdependence theory. This led to the development of four key analytical criteria established in Chapter One. The first two – *interests* and *incentives*, have contributed directly to identifying, and examining some of the key driving factors behind France's multilevel cooperation in selected cases within the ATS. The second two criteria – *interactions* and *institutionalisation*, have assisted in determining some of the principal strategies and mechanisms France employs in its cooperative engagement in these cases. Together, these criteria have been

employed to uncover some broad, and contemporary insights into the nature and dynamics of French cooperation in the ATS.

Drawing insights and conclusions from both the elements driving French cooperation in the ATS, as well as the methods and strategies it adopts, provides an opportunity to examine the extent to which France's cooperative behaviour within this multilateral treaty regime conforms with the key features of complex interdependence that have been identified in Chapter One.

Multilaterally, France participates cooperatively both within the ATCM and the CEP. As a long-standing Treaty Party, and claimant state, France has traditionally occupied an influential role within the ATCM. Over time, this position has increasingly enabled France to adopt a direct, and independent approach to pursuing its key national interests and Antarctic agenda within the ATCM. In some circumstances, France's propensity for independent policy approaches and strategies has at times been a contributory factor in decreased levels of French cooperative behaviour within this institutional forum. In order to see its Antarctic agenda achieved more fully, France's strategies for pursuing multilateral cooperation within the ATCM may benefit from strategic evaluation. Nevertheless, France's overall level of engagement within the ATCM has certainly become more clearly apparent, and cooperative over the last decade – France submits a greater number of high quality papers to the ATCM on a consistent basis, detailing proposals and recommendations relative to areas on which it maintains strong interests and expertise.

In relation to tourism, while France clearly pursues an active role, and does cooperatively engage with some Parties (for example, with Australia and

New Zealand regarding the examination of the impacts of tourism activities, and with Germany on the evaluation of existing tourism guidelines), its capacity to extend this cooperation to a wider arena of constituents, by engaging with a broader range and number of Parties, and marshalling their support within the ATCM, remains limited in regard to the issue of tourism. This continues to have a substantial impact on France's capacity to achieve its key objectives regarding Antarctic tourism regulation.

Expanding cooperative networks with both existing, as well as potential bilateral and multilateral partners within the ATCM would provide France with a number of key benefits. For example, the opening up of a wider spectrum of opportunities for France to articulate its agenda, as well as the collective goals it seeks to achieve with other Parties, and assisting in identifying instances where an increase in the scale of collaboration on priority issues (particularly with those Parties with whom France shares areas of interest, commonalities of purpose, and complimentary expertise). This would contribute to progressing the wider values of the Antarctic, whilst also enhancing France's national interests, through improving the flow of information and knowledge at both national and international levels. As the number of states engaged in Antarctic affairs continues to rise, the necessity for ATCPs to remain informed and at the forefront of international Antarctic political affairs, is not only more challenging, but is also more critical to ensure.

While this Chapter has identified that France's decision to cooperate can be frequently traced back to multiple motivations or drivers, in the case of its cooperative multilevel engagement in the ATS, these motivating factors are often not entirely perceptible, and/or may overlap at any given time – particularly at the multilateral level. In turn, these significantly impact on the

methods and processes France pursues and implements through cooperative strategies. In this regard, it is important to take into account the general cooperative trend that has become apparent within the ATS throughout the last two decades (and in particular over the last ten years at an even more accelerated rate). French engagement within the ATS is generally in line with this wider trend, despite the fact that there may be some specific instances in which France has acted contrary to this emerging pattern.

In attempting to identify state purposes in regard to cooperation, Haas draws attention to a number of key factors, including, but not limited to: the capacity of states to make decisions; absorb new and changing knowledge and information; analyse situations; develop relationships with other states; and adjust decision-making procedures. In order to facilitate successful and effective cooperation, Haas also notes the importance of developing international frameworks (i.e. regimes or other similar agreements) through which common policies can be established, accompanied with a capacity on behalf of states to make joint commitments and agreements.[33] Regarding its engagement within the ATS, in a number of instances, France demonstrates a strong capacity to implement these key components necessary that facilitate cooperation – this is particularly evident in the two bilateral cases provided in this study, as well as in relation to France's multilateral engagement in the CEP.

The motives for France's engagement in the ATS are clear. Ensuring the retention of its existing status and position, entails a deepening of France's engagement within the key institutional forums of the ATS – particularly the ATCM as the principal decision-making body for all Antarctic matters. More

[33] Haas, "Why Collaborate?" 399.

specifically, a deepened involvement necessitates an increased and sustained pursuit of international cooperation, by utilising and building upon existing cooperative frameworks, as well as developing new ones. France increasingly demonstrates a realisation of the costs of acting independently, as well as recognising the fundamental benefits, and potential gains to be achieved through enhanced cooperation. Furthermore, its recognition is not solely based on a need to protect and enhance national interests by remaining active and influential, but is also indicative of an increasing awareness of the need to cooperate in order to realise the wider, collective interests and values of Antarctica.

Although France's Antarctic policy objectives have continued to evolve over time, encompassing periods of heightened, as well as reduced participation within the ATS, certain policy elements have remained evident and constant. Political and economic factors, as well as scientific interests, have traditionally been major directing and influential elements involved in shaping France's Antarctic policy, and ensuring the protection of its key national interests in the region.

While these factors remain highly relevant, and continue to be the major determinants governing the nature of France's behaviour in the ATS over the last two decades, environmental factors have demonstrated a significant capacity to provide major impetus to enhanced French cooperative engagement in the ATS. This is indicative of an upward trend within the ATS, toward enhanced and strengthened instances of environmentally based cooperation between Parties.

France's rationale for enhanced engagement within the ATCM over the last decade may be, first, suggesting that in seeking to realise certain key interests,

France is achieving (or at least perceives the potential for achieving) more significant gains through cooperative interaction, rather than experiencing (or anticipating the potential to experience) constraints and costs that may be an externality of cooperative action. Increasing levels of cooperation offers a multiplicity of significant advantages that can be tapped into by France – most notably, the enhancement of key national interests, but also more widely, the capacity to reduce and mitigate negative impacts on the Antarctic environment.

Second, France may also be experiencing the effects of external international pressures on the ATS to respond to an increasing global impetus for cooperative action regarding environmental protection. If this is the case, and the ATS is exerting new and more urgent pressures and demands upon ATCPs such as France to engage in cooperation as a means of addressing and mitigating collective environmental problems, in this context of international complex interdependence, the capacity of states to remain the pivotal decision-makers in the increasingly politically interconnected international arena, can certainly be drawn into question in the future.

Conclusion

The purpose of this study has been to examine key instances of French cooperation within the Antarctic Treaty System (ATS), and in doing so, address questions relating to the nature of a single state's cooperation within a multilateral regime. While this research addressed general themes relating to cooperation within international regimes, its primary purpose was to provide insights into the cooperative behaviour of France within the ATS.

This thesis considered the factors that motivate French cooperation in the ATS, and the strategic focus of France's Antarctica agenda through the examination of two central questions:

- what are the drivers that have led to France undertaking increasing cooperative engagement within the ATS over the last decade? And,

- through what principal means is France pursuing cooperation within the ATS?

In relation to these questions, analysis of three empirical cases presented in this study produced a number of key findings. In regard to both the bilateral case studies, agreements concluded with Italy and Australia clearly demonstrate France's strong motivation to pursue and maintain active cooperative engagement with two fellow Treaty Parties with whom it shares fundamental common interests and goals, and with whom it realises significant potential to achieve feasible joint gains. Examination of the two bilateral cases reveals that based on certain common motivating factors, France's will and capacity to pursue cooperation at a bilateral level is both

strong and consistent. Somewhat in contrast, the multilateral case indicated lower instances of cooperation in the ATCM, but reveals that the nature and level of France's cooperation within the CEP is substantially strong. The three empirical cases outlining key instances of France's engagement within the ATS also demonstrate overall enhanced levels of French cooperation throughout the last decade.

Insights extrapolated from a rich set of international relations literature, and matched by primary source data and the analysis of cases, indicates a number of contributing factors that have led to France's increasing cooperative behaviour within the ATS. Primarily, these may be categorised as political factors (especially the desire to reaffirm sovereignty in France's Antarctic territory, and reinforce its political influence and credibility within the key institutional forums of the ATS); but also in some instances, economic factors (such as the need to protect valuable fisheries resources in the Southern Ocean). Scientific and environmental factors are increasingly also playing a major role in determining the upward trend in France's cooperative behaviour.

While linked to political, and also economic factors, France's strong commitment to scientific research and environmental protection in Antarctica is clear. The fact that France pursues more comprehensive regulatory tourism policies based on environmental protection concerns that are frequently at odds with a large number of other ATCPs (that often favour, or at least accept less stringent regulation), highlights not only the extent and level of France's dedication to protecting and enhancing the integrity of the Antarctic environment, but also its commitment to upholding the key provisions of the Madrid Protocol and the Antarctic Treaty.

In considering the second research question posed in this study – the strategies adopted by France in undertaking cooperative engagement in the ATS, a number of major points supported by key literature on international cooperation and regime theory, can be drawn from analysis of the cases. First, France places significant emphasis on pursuing multilevel cooperative agreements within the ATS (particularly at the bilateral level, and in the instances where France perceives a high potential for achieving feasible joint gains, with minimal transaction costs).

In attempting to establish cooperation with other ATCPs, France employs a variety of strategies and policy instruments including, but not limited to, issue linkage, negotiation, and forms of bargaining (characteristically, methods employed at the multilateral level where it is considered more challenging to establish straightforward channels of communication between actors, and where disparate or conflicting issues, interests, and agendas are more likely to be present). Based upon analysis of France's cooperation in these studies (particularly at the multilateral level within the institutional forum of the ATCM), it is evident that as an international regime, the ATS also plays a determinant and influential role in shaping the cooperative behaviour of ATCPs such as France.

France's political engagement in Antarctic affairs has been renewed since the establishment of the Madrid Protocol (a fundamental example of French cooperation within the ATS), and is a trend that has been accompanied by enhanced multilevel cooperation over the last decade. Perhaps the most striking observation relates to questions surrounding the nature of France's participation within ATCMs – the only example that indicates a tendency for at times, more limited levels of cooperative engagement on France's behalf.

Given that this may likely be due to domestic political factors (a subject area that did not constitute a focal area in this study, but one that would benefit from further research in the future), it is important to note that it was not possible to obtain a full account of the details that may explain France's engagement in ATCMs.

Following the entry into force of the Antarctic Treaty over fifty years ago, France has maintained consistent engagement within the ATS, and has pursued a number of key policy objectives in order to achieve its Antarctic agenda. With the protection and preservation of sovereignty paramount to French national interests, policies aimed at ensuring a permanent presence on the continent, maintaining active engagement, and cementing its influential role within the decision-making institutional nuclei of the ATS, all constitute major objectives for France. In addition to this, the pursuit of excellence in scientific research, and the protection and management of the Antarctic environment (particularly in relation to the important role Antarctica plays in understanding changes to the global climate system), also provide fundamental drivers of French Antarctic engagement, and play an increasingly determinant role in terms of shaping the nature of France's multilevel cooperation in the ATS.

Nevertheless, it has been since the establishment of the Madrid Protocol in the early 1990s (a critical event that altered the future direction of political Antarctic affairs, and in which France played an instrumental role), that the consistency of France's key Antarctic policy priorities and objectives has been enhanced, and notably, accompanied by a clearer articulation of its agenda in the region. Additionally, the strategic means by which France pursues these goals in light of its broader political agenda, and its international commitments under the Antarctic Treaty and the Madrid Protocol, has also

been strengthened – particularly at the bilateral level. Stepping up multilevel cooperative efforts in line with its key objectives, and pursuing a variety of strategies as a means of achieving its agenda, is a policy trend that is particularly evident over the last decade.

While France necessarily pursues cooperation in the instances where cooperation is not perceived to jeopardise key national interests, a thorough assessment of France's motivations indicates that cooperation is increasingly considered not only a logical, but also a critically important step – as the achievement of national interests continues to become more closely aligned with the need to ensure that wider collective interests of Antarctica are upheld. With these two factors no longer so easily separated, a number of ATCPs, including France, recognise the pivotal importance of cementing the permanency of their presence in the region, and political engagement and influence through cooperative processes. In this regard cooperation and collaboration can be seen a means of asserting influence within the institutional systems of the Treaty, as it enables France to maintain a high level of active representation and participation, as well as credibility of reputation in international Antarctic political affairs.

The current global environment is characterised by significant change, uncertainty, and increasing interdependence. Subject to these conditions, international regimes are dynamic and evolutionary phenomena, and while states predominantly remain the major actors in world affairs, international regimes and institutions increasingly play important, and influential roles in influencing state behaviour. States participating within these regimes are therefore required to operate under global conditions of change and

uncertainty.[1] Consequently, these conditions make it challenging (although even more necessary) to develop 'a set of simple and well-behaved generalizations' in relation to the cooperative strategies employed by states, and the capacity to achieve successful outcomes.[2]

The need for enhanced, and sustained analysis of the dynamics of international cooperation occurring within international regimes is clear. According to Young, there is a high 'premium' on the capacity to predict state behaviour, to establish systems that avoid 'tipping points,' and to 'adapt' to changing circumstances quickly, decisively, and on an ongoing basis.[3] This is particularly the case within the ATS – a regime comprised of a variety of legal instruments responsible for governing and managing a vast and uninhabited geographic area, that is of interest and concern to many nations, and that (while still characterised by scientific uncertainty) is of critical importance to understanding the wider global environmental system.

Improving our understanding of how cooperation takes place within existing international regimes is vital in order to gain knowledge and develop procedures that aim to assist decision makers undertake well-informed decisions, and pursue strategies under conditions of uncertainty. Importantly, Young draws attention to the fact that this facilitates the capacity of states to remedy 'the sort of paralysis that often accompanies reliance on consensus procedures' – certainly a point that bears relevance to state behaviour within key forums of the ATS.[4] These are areas of research

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[1] Oran Young, Institutional Dynamics: Emergent Patterns in International Environmental Governance (Cambridge, MA: The MIT Press, 2010).
[2] Oran Young, "Sugaring Off: Enduring insights from four decades on environmental governance" (paper presented to *The Colorado Conference on Earth System Governance* (Colorado State University, Colorado 17-20 May 2011), 22.
[3] Ibid.
[4] Ibid, 23.

that should be of interest to, and stimulate discussion among a wide variety of audiences within not only the Antarctic political community, but also more broadly, within the general international political arena.

In terms of directions for future academic research, examination of the roles of individual Treaty Parties (particularly other claimants, and Parties with longstanding Antarctic agendas and interests) would assist in developing a comprehensive understanding of how cooperation influences the capacity to achieve collective outcomes. This is particularly important in the intrinsically internationalised sphere of Antarctic affairs, where the achievement of collective outcomes is fundamentally necessary – especially given the critical role the Antarctic environment plays in understanding the global climate system.

The development of the Madrid Protocol over two decades ago, provided a definitive catalyst for the reinvigoration of France's political interest in the region within the evolving strategic context in Antarctica, and clearly highlights the value and importance environmental protection occupies on France's agenda. On the twentieth anniversary of the signing of the Madrid Protocol in June 2011, France (in a joint declaration with Australia and Spain at ATCM XXXIV, in Buenos Aires) reinforced its strong commitment to the Madrid Protocol, and more broadly, to environmental protection in Antarctica, and strongly encouraged all Parties that had not yet acceded to the Protocol to do so at the earliest opportunity. [5]

[5] ATCM XXXIV-CEP XIV, "The Final Report of the Thirty-Fourth Antarctic Treaty Consultative Meeting – Fourteenth Committee on Environmental Protection Meeting," (Buenos Aires, 2011).

In order to reaffirm the critical importance of Antarctic environmental protection issues, and to maintain momentum amongst Parties on the necessity of acceding to the Protocol, France, Australia, and Spain submitted a follow up working paper at ATCM XXXV in Hobart in 2012.[6] This reflects not only that environmental protection constitutes a key interest area on which France continues to place increasing policy emphasis, but also highlights the value France assigns to cooperative initiatives that assist it in achieving its objective of environmental protection in Antarctica.

As a claimant state, original Antarctic Treaty signatory, and key player in all the ATS institutions, with an extensive environmental legacy (founded upon its role in developing the Madrid Protocol), France has consistently occupied an influential role in the international Antarctica political arena, and possesses the will, capacity, and know-how to continue to pursue a leadership role within the ATS.

Aware of the fact that the current international political environment is increasingly 'marked by changes that are nonlinear, sometimes abrupt, [and] typically irreversible,'[7] and taking into account changes to the geopolitical status quo within the ATS brought about by exogenous influences (most notably, widening Antarctic Treaty membership), France, in aiming to retain its prominent position well into the future, recognises the need to identify

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[6] ATCM XXXV – CEP XV, "The Final Report of the Thirty-Fifth Antarctic Treaty Consultative Meeting – Fifteenth Committee on Environmental Protection Meeting," (Hobart, 2012).

[7] Young, "Sugaring Off," 22. See also, Oran Young, "Governing International Spaces: Antarctica and Beyond," in *Science Diplomacy: Antarctica, Science, and the Governance of International Spaces,* ed. Paul Arthur Berkman, Michael A. Lang, David W.H. Walton, and Oran R. Young, 287-295 (Washington D.C.: Smithsonian Institution Scholarly Press, 2011); F. Stewart Chapin, Gary P. Kofinas, and Carl Folke (eds.), *Principles of Eco-system Stewardship: Resilience-Based Natural Resource Management in a Changing World* (New York: Springer, 2009).

Parties with whom it shares common interests, and policy positions in regard to the critical issues occupying the contemporary Antarctic agenda.[8]

Broadly, the success of the Antarctic Treaty to mitigate against major existing and emerging issues affecting Antarctica, predict emerging problems, and forecast effective and achievable solutions, will depend on the motivation and capacity of key ATCPs such as France continuing to identify, and act upon valuable opportunities, or 'levers'[9] for cooperation provided for by the complex matrix of international institutional arrangements that together comprise the ATS.

[8] Given that France is a leading figure and active participant in international organisations such as *la Francophonie*, analysis of France's role within this forum could potentially constitute an area of future research – for example, a comparison of France's activity in the ATS with its role and actions in *la Francophonie*. This could be especially relevant in regards to opening up further research questions relating more broadly to France's bilateral and multilateral diplomacy.

[9] Oran R. Young, "Institutional Dynamics: Resilience, vulnerability and adaptation in environmental and resource designs," *Global Environmental Change* (2009), 5

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